COASTAL AREA MANAGEMENT ACT

LAND USE PLAN

TOWN OF LONG BEACH, NORTH CAROLINA

A

LAND USE PLAN

FOR THE

TOWN OF LONG BEACH, NORTH CAROLINA

Prepared in accord with
State Guidelines for Local Planning in the Coastal Area
Under the Coastal Area Management Act of 1974

Submitted To:
North Carolina Coastal Resources Commission

21 May 1976

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NOTICE TO USERS

All major policy related maps and documents are either included within the text or attached to the back of the plan. However, due to the expense and technical limitations required for reprinting some illustrations may be omitted. Complete copies are available for inspection at the N. C. Coastal Resources Commission offices in Raleigh or at the local government offices.

TABLE OF CONTENTS

TABLE OF CONTENTS
(continued)

INTRODUCTION

PURPOSE OF A LAND USE PLAN IN NORTH CAROLINA COASTAL MANAGEMENT

The North Carolina Coastal Area Management Act of 1974 /Chapter 1284 1973 Session Laws (G. S. 113A/ (CAMA) established "....a cooperative program of coastal area management between local and State governments" whereby "Local government shall have the initiative for planning."

Enactment of CAMA was based upon findings by the General Assembly that

- "Among North Carolina's most valuable resources are its coastal lands and waters."
- "the estuaries are among the most biologically productive regions of this State and of the nation"
- "an immediate and pressing need exists to establish a comprehensive plan for the protection, preservation, orderly development, and management of the coastal area of North Carolina."

The CAMA established the following goals for the coastal area management system.

"(1) To provide a management system capable of preserving and managing the natural ecological conditions of the estuarine system, the barrier dune system, and the beaches, so as to safeguard and perpetuate their natural productivity and their biological, economic and esthetic values;

"(2) To insure that the development or preservation of the land and water resources of the coastal area proceeds in a manner consistent with the capability of the land and water for development, use, or preservation based on ecological considerations;

"(3) To insure the orderly and balanced use and preservation of our coastal resources on behalf of the people of North Carolina and the nation;

"(4) To establish policies, guidelines and standards for:

(i) Protection, preservation, and conservation of natural resources including but not limited to water use, scenic vistas, and fish and wildlife; and management of transitional or intensely developed areas and areas especially suited to intensive use or development, as well as areas of significant natural value;

(ii) The economic development of the coastal area, including but not limited to construction, location and design of industries, port facilities, commercial establishments and other developments;

(iii) Recreation and tourist facilities and parklands;

(iv) Transportation and circulation patterns for the coastal area including major thoroughfares, transportation routes, navigation channels and harbors, and other public utilities and facilities;

(v) Preservation and enhancement of the historic, cultural, and scientific aspects of the coastal area;

(vi) Protection of present common law and statutory public rights in the lands and waters of the coastal area."

The planning processes established by the CAMA include: (a) State guidelines setting the objectives, policies and standards to be followed in public and private use of land and water within the coastal area; and (b) a land use plan for each county within the coastal area.

Following the procedures contained in the CAMA, the Mayor and Board of Town Commissioners of Long Beach declared the intent of the Town to prepare a land use plan in accordance with State Guidelines for Local Planning in the Coastal Area under the Coastal Area Management Act of 1974 (Guidelines) adopted by the North Carolina Coastal Resources on January 27, 1975, as subsequently amended.

The Guidelines mandate that each land use plan contain:

1) A statement of Local Land Use Objectives, Policies and Standards;

2) A Summary of Data Collection and Analysis;

3) An Existing Land Use Map;

4) A Land Classification Map;

5) Written text describing and indicating appropriate development for Interim Areas of Environmental Concern.

A land use plan is one of many elements that constitute a comprehensive plan for Long Beach. The land use plan expresses the way the democratically elected representatives of the people think the finite land area should be allocated to best meet the hopes and aspirations of the people who live and pay taxes in a specific jurisdiction. A land use plan can only be thorough when health care, education, transportation, economic development, leisure time, and other components of a comprehensive plan are tested against the people's goals and objectives so they can be integrated into the land use element.

Long Beach's land use plan relies upon those data most readily available and focuses upon the major emphases of the CAMA: development within the capability of the natural resources. Other topics, such as water and sewer, roads and streets, and employment are consistent with issues raised by the public, but are peripheral to establishing a basis for decision-making with respect to land.

It is Long Beach's intention to utilize the plan as a keystone for all future town activity. The land use plan is a major step in comprehensive planning for Long Beach. Matters such as zoning, building

codes, Town appearance, and beach maintenance can be based upon the plan; policy issues, such as annexation, taxes, maintenance of water quality, health care and employment are preliminarily identified for later study and decision-making as elements of the Town's comprehensive planning process.

METHOD OF PREPARING THE PLAN

The Long Beach land use plan was developed as an iterative process among elected and appointed public officials, the public, and professional resources specialists.

The iterative process: 1) Sampled public recognition of problems and opportunities in general terms; 2) defined the known physical, social, and institutional setting; 3) invited the public to participate in matching problem solutions with the setting by defining objectives and standards for the Town; 4) projected factors consistent with the selected Town goals and the physical restraints; 5) allocated land according to the projected magnitude of demand and the physical characterestics of the Town; and 6) used the inventory data developed in step 2 to delineate areas recommended as areas of environmental concern with a list of suggested uses.

Coastal Resources Commission Guidelines emphasize the need to map three sets of data: existing land use, land classified according to projected use in 1985, and areas that will be recommended as interim areas of environmental concern. These Long Beach data were mapped at a scale of 1 inch = 400 ft. The basic map medium was an aerial photograph mosaic prepared by Coastal Zone Resources Corporation from N. C. Department of Transportation 1 inch = 1,000 ft photography taken in December 1974.

The air-photograph maps are easily reproducible and will serve as a useful public information tool. Additionally, the reproducible mosaic is available for use as a base map to support other planning activities and for implementation of the plan.

Data describing current conditions in the Town were assembled from numerous federal, state and local government sources, as listed in References Cited (p VI-1). Where more current or detailed information than was available in publications was needed, personal communications with representatives of the publishing agencies and knowledgeable Town residents were used to complete the data collection and analysis.

Details of Long Beach's public participation program are contained in Appendix A.

The CAMA sponsored land use planning in the Town was coordinated with comparable activities conducted by the Brunswick County Planning Board. No major conflicts between the county and municipal plan have surfaced. If in the future, conflicts should arise, provisions of the county plan shall govern except in cases where the municipal plan imposes greater restrictions upon land use or greater demands for new development.

SECTION I

CURRENT CONDITIONS

POPULATION AND ECONOMY

Population

Estimates of the current population of the Town of Long Beach are available from several sources; however, the various estimates differ considerably. The population of Long Beach was reported to be 102 in the 1960 U. S. Census of Population; the 1970 population was reported as 493, an increase of 383 percent from 1960 to 1970 (U. S. Department of Commerce 1973). The U. S. Department of Commerce (1973) estimated the 1973 Long Beach population to be 641, an increase of 30 percent from 1970 to 1973.

The State of North Carolina's Department of Administration (DOA) makes yearly estimates of municipal populations for the purpose of determining appropriate allocations of state funds. Both DOA and U. S. Department of Commerce estimates are determined by use of standard population projection methods based primarily on census data and extrapolations of historical population growth trends. The DOA estimate of 1974 Long Beach permanent population is 800[a], an increase of 62 percent from 1970 to 1974.

In 1974, the Town of Long Beach conducted a count of all Town residences in order to adopt a house numbering system. The total number of permanently occupied residences indicated in this count was 1,439; the total number of residences only seasonally occupied was 479[b].

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[a] Francine Ewing, N. C. Department of Administration, Office of State planning, personal communication, December 11, 1975.

[b] Town of Long Beach letter to Postmaster, Southport, North Carolina, June 11, 1974.

The 1974 permanent population, based on 3.2 persons per residence, was estimated to be 4,605[a].

According to the above figures, the population of Long Beach increased by 940 percent between 1970 and 1974. Town sources attribute much of this growth to three major factors: 1) In the last few years, Carolina Power and Light Company's Southport nuclear generating facility, Pfizer Drug Manufacturing plant and a cosmetic factory located within 7 miles of the Town and many people entering the area as employees of these firms chose to live in Long Beach; 2) The Town is receiving an influx of retirement people, many of whom bought lots and built houses in the 1950's and are now settling in the Town permanently; and 3) A large contingent of construction workers is associated with the building industry, both in Long Beach and in surrounding areas, which has been stimulated by the recent increase in industrialization[b].

The difference between the DOA and Town of Long Beach 1974 population estimates amounts to 3,805 persons. Both DOA and Town sources recognize the deficiencies of each's method of estimation. DOA projections ignore the impact of recent industrial location in the immediate vicinity; the Town's evaluation of a residence's seasonal or permanent occupancy is difficult to substantiate.

The Town, DOA and Department of Commerce figures reflect only the year-round population of the Town; no realiable estimate of seasonal residency is available for years prior to 1973. According to the U. S.

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[a] Town of Long Beach letter to N. C. Department of Administration, State Planning Office, August 23, 1974.

[b] E. W. Morgan, realtor and former mayor; Clarence R. Morrison, realtor; personal interview, May 21, 1975.

Army Corps of Engineers (Corps), the 1973 average summer weekday population of Long Beach was 9,000 and the summer weekend-day population was 12,000 (U. S. Army Corps of Engineers 1973). There are no specific counts of 1973 seasonal population; the Corps estimates are based on values obtained from recent water supply studies for the area as well as information furnished by Town officials and local real estate agents. The Corps evaluated the rates of development in Long Beach between 1961 and 1970 by comparing the number of residential and commercial structures appearing on aerial photographs taken in those respective years. There were 389 structures in 1961 and 1,434 in 1970, an increase of 269 percent. But as with the Town's survey of residential structures, the determination of seasonal or permanent occupancy is difficult to make. In addition, the number of structures serving as single family residences as opposed to duplexes cannot be determined from aerial photographs, nor can the average number of persons occupying residential units.

The Town of Long Beach recognizes the need for accurate population information on which to base future population needs. The Town has contacted the U. S. Bureau of the Census and is studying the feasibility of conducting a Census survey in 1976.

Economy

Occupations of most of the townspeople center around home building, sale and maintenance, with the construction industry accounting for the largest portion of jobs. Approximately 1,500 - 2,000 residents work in areas outside the Town, commuting mainly to the Carolina Power and Light plant, various Brown and Root construction sites, and to

Sunny Point; commercial fishing is also an important source of employment of permanent residents.

Additional job openings, especially for pier employees, waitresses, store clerks, and motel operators are created in summer. Unlike many beach communities, however, the Long Beach economy does not rely on tourism. There is no bank in the Town and there are few professional services such as doctor and law offices, but Long Beach commerce can supply most of the day-to-day shopping needs for its residents. Adequate grocery and variety stores, beauty and clothing shops are open year-round and are supported by local people.

Municipal Finance

The Long Beach Town Budget for fiscal year (FY) 1975-1976 is based on a total estimated property valuation of $50,000,000 and a tax rate of $.61 per $100 valuation. The propery valuation in FY 1971-1972 was $8,572,000 and the tax rate was $1.20. The 483 percent increase in valuation in the last four years is offset somewhat by the 49 percent decrease in the tax rate; ad valorem taxes (including back taxes and penalties) produced a revenue of $105,700 in 1971 and $282,000 in 1975.

Ad valorem taxes accounted for 47 percent of the General Fund revenues in the 1971 budget and 61 percent in 1975. Intergovernmental taxes, such as franchise, ABC, and local sales, are the second largest source of revenue to the Town, 36 percent in 1971 and 27 percent in 1975. Table 1-1 lists the sources of revenue in the General Fund Town Budgets for the two years, and the percent of total revenue produced by each source.

The cost of general government[a] as a percent of total expenditures

[a]For the purpose of analyzing community service finance, general government includes all expenditures except those specifically cited here as service facility expenditures.

Table 1-1. Long Beach General Fund Revenues.[a]

Source of Revenue	Fiscal Year 1975-1976	% Total	Fiscal Year 1971-1972	% Total
Ad Valorem Taxes (including back taxes and penalties)	282,000	61	105,700	47
Other Municipal Taxes (including privilege licenses, building permit fees)	8,375	2	6,100	3
Intergovernmental Taxes (including franchise, ABC, local sales, etc.)	127,998	27	80,298	36
Federal-Law Enforcement Assistance Administration (LEAA)[b]	32,066	7	0	0
Water System	14,209	3	32,000	14
Total Revenue	464,648	100	224,098	100

[a]Source: Town of Long Beach (Adopted) Budgets; 1971, 1975.

[b]LEAA Grants not available in 1971.

Table 1-2. Long Beach General Fund Expenditures.[a]

Cause of Expenditure	Fiscal Year 1975-1976	% Total	Fiscal Year 1971-1972	% Total
General Government[b]	166,478	36	52,429	23
Police Department	174,485	38	45,055	20
Fire Department (including rescue)	13,283	3	9,550	4
Streets	84,002	18	59,350	27
Health and Sanitation (including solid waste collection and mosquito control)	8,875	1	37,525	17
Recreation[c]	17,525	4	0	0
Water Department[d]	0	0	18,991	9
Total Expenditures	464,648	100	222,900	100

[a]Source: Town of Long Beach (Adopted) Budgets; 1971, 1975.

[b]For the purpose of analyzing service expenditures, General Government includes all General Fund Expenditures other than those listed above.

[c]There was no Recreation Department in 1971

[d]In 1975 Budget, a Water Fund is separate from General Fund.

has increased since 1971; expenditures for service facilities, except the police department, have decreased. Table 1-2 lists the General Fund expenditures to service facilities and general government as appear in the FY 1971-1972 and 1975-1976 Town Budgets. The largest single expenditre in 1975 is allocated to the Police Department; 81 percent of that allocation is for salaries. Salaries and professional services account for 45 percent of general government expenditures.

Allocations for fire protection, street construction and maintenance, and health and sanitation have all increased since 1971 but decreased as a percent of the total budget. It must be noted, however, that the fire department (including the rescue squad) is a volunteer organization, and as such requires no expenditures for salaries. Personnel involved in solid waste collection in 1975 are under the direction of the head of the street department, and expenses for their salaries are listed as street department expenses. Salaries actually accounted for 50 percent of street expenses in 1975 and 79 percent of sanitation.

Overall, a comparison of the budgets for the two fiscal years shows that the amount of revenue currently available as capital outlay for future service facility expansion is limited. In the separate water system budget, totalling $27,000 in FY 1975-1976, 38 percent of the expenditures were contributed to the General Fund; only $291 were allocated to capital outlay.

EXISTING LAND USE

The Town of Long Beach is located on Oak Island, on the southern coast of Brunswick County. Oak Island is a narrow strip of land between the Atlantic Intracoastal Waterway (AIWW) and the Atlantic Ocean, stretching virtually due east-west from the Cape Fear River to Lockwoods Folly Inlet. The AIWW between the Cape Fear River and the Inlet is an 11 mile long navigation channel with a minimum depth of 12 feet (ft) (low water datum). Historic Fort Caswell (the North Carolina Baptist Assembly Grounds) occupies the eastern tip of the island, with Caswell Beach and Yaupon Beach located immediately to the west. The Town of Long Beach, from its border with Yaupon Beach, covers the rest of the island, extending for 8 miles to the Lockwoods Folly Inlet.

Long Beach is located 5 miles ESE of Southport and 33 miles SE of Wilmington, the population centers of an area formerly characterized by farmland, but presently showing signs of industrialization. North of Long Beach, in both Brunswick and New Hanover Counties, tourist and permanent populations are increasing dramatically. Bald Head Island, the site of a large new resort/residential development is situated in Brunswick County across the Cape Fear River from Oak Island.

Long Beach is made up of beaches, dunelands, maritime forests, fresh and salt water marshes, and longleaf pine-turkey oak forests. For the purpose of physical description, the Town can be divided into four sections:

(1) The first section extends from the eastern town line, west to 47th Street East. From south to north, this area consists of beach and dunes, brackish marshes and ponds, longleaf pine-turkey oak forest, and along the AIWW, salt water marshes and piles of dredged material. Between

the AIWW and East Yacht Drive, numerous small creeks and canals traverse the salt marsh; between the dunes and the forest, a small ditch drains the fresh water ponds. Development in these areas is limited to the forest and dunelands, with only sparse use made of either of the marshlands.

(2) Between 40th and 47th Streets East, there are virtually no marshes, either in the north or south; the forest and beach areas are extensively developed, with roads extending from the dunes to the AIWW.

(3) The Big Davis Canal[a] and marsh system begin at 40th Street. North of the canal land is higher and forested, principally with longleaf pine-turkey oak; immediately south of the canal, is marsh. The marshland widens progressively westward to the inlet, separating the development in the beach area from that in the woods. On Middleton Avenue, a bridge across the marsh and canal connects the beach and forest areas. The Big Davis Canal, where sufficiently deep and wide, is used for water transportation and fishing; the surrounding marshland is virtually undeveloped at present.

(4) In the vicinity of Pine Island, the marsh/creek network becomes more complex with the beginning of Montgomery Slough and Eastern Channel flow westward. In the Pine Landing vicinity, Montgomery Slough joins Eastern Channel, and the Lockwoods Folly River joins the AIWW; all then flow out to sea through the Lockwoods Folly Inlet.

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[a]Before its dredging in the early 1960's, called Big Davis Creek.

The developed or improved land in Long Beach extends the full length of the island and most of its breadth, with only limited areas, principally marshland, remaining undeveloped at the present time. Presently, 90% of all new construction in Long Beach is occurring in the wooded areas with most of the year-round population residing in the wooded area in the eastern part of town.[a] Both the permanent and seasonal population densities decrease progressively westward; while permanent population density is heavier in the larger, wooded areas of town, the land area covered most densely with houses is the first three rows of ocean front lots.

Residential

The existing Zoning Ordinance of the Town of Long Beach recognizes and defines several categories of land use within the Town limits. The Residential Districts include the bulk of the land area in the Town, especially along the beachfront and to the west of 64th Street East, and permits single family and two-family dwellings. With the recommendations of the Planning Board and special approval of the Town Commissioners, multiple family dwellings may also be permitted in the Residential I District.

Limited to the eastern end of town is an area zoned Residential II or Mixed Residential, in which, in addition to housing units, mobile homes are permitted. This zone is bounded by the eastern town line and 64th Street East, Oak Island Drive and East Yacht Drive.

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[a] E. W. Morgan, realtor and former Mayor, Clarence R. Morrison, realtor; personal interview, June 25, 1975.

Commercial

The bulk of the Business District of Long Beach is located along both sides of Oak Island Drive, between 47th and 65th Streets East; between 46th and 52nd Streets East, there is commercial land use permitted on 2nd and 3rd row beach lots. There is some beach front Business District located between 46th and 49th Streets East and three other smaller areas of town zoned for commercial uses. Between 14th and 16th Streets East and between 27th and 30th Streets East are two commercial areas, both located around piers; at the NE corner of the intersection of East Dolphin Drive and Middleton Avenue, the site of a proposed shopping center is zoned for commercial use.

The other Business District in the Town of Long Beach is called Restricted Business and Office. There is only one block of this District, located near the Town Hall, allowing for the operation of the telephone office in Town.

Public and Institutional

The public and institutional land uses in Long Beach presently occur within the Commercial zoning district. The Town Hall, City Garage, Fire Department, Police Department, and Building Inspector's office ar all located on Oak Island Drive. Behind the Town Hall is the Town's public recreation center, Middleton Park, which contains 2 lighted tennis courts, basketball courts, and a regulation little league baseball field.

Transportation

There are three main roads running east-west through Long Beach. Beach Drive provides access to the beach lots between 58th Street East

and the western end of the beach strand. Oak Island Drive runs through the center of the island and the principal commercial district, from the eastern town line to Pinner Point; Oak Island Drive provides access to the inland lots and constitutes a thoroughfare the length of Town. Yacht Drive forms a broad arc around Town as it runs along the AIWW, providing access to the waterway lots and their related boating activities. The principal street in Long Beach with a north-south orientation is Middleton Avenue, which, with a bridge, connects the three main east-west roads. Middleton Avenue provides the only land vehicular passage across the Big Davis Canal and marsh.

In general, land uses now present in Long Beach have not resulted in problems of compatibility; residential/recreation land use is supported by commercial and institutional facilities. There are no agricultural, industrial or forestry activities in conflict with the above uses nor are any foreseen in the future. Rather, land use problems beginning to surface in the Town and likely to be augmented in the future involve more the intensity of various uses, in particular a) the small amount of commercial and institutional land zoned to support residential/recreation activities and b) the undetermined carrying capacity of the Town's land, water and fiscal resources to accommodate increased land uses.

CURRENT PLANS AND REGULATIONS

Existing Local Regulations Affecting Land Use in Long Beach[a]

Plumbing Code

Effective Date: Not available

Application: For all plumbing installations or alterations thereto within the corporate limits of the Town of Long Beach.

Summary of Provisions

1. Long Beach has adopted the North Carolina State Plumbing Code by reference.
2. An installation fee is to be paid to Town Clerk.
3. Those performing plumbing installation or alteration must be approved by a Plumbing Inspector.

Repair, Closing and Demoliton of Dwellings Unfit for Human Habitation

Effective Date: May 21, 1966

Application: The corporate limits of the Town of Long Beach.

Summary of Provisions

1. Persons receiving complaint notices allowed to appeal.'
2. Owner may be required to repair, remove or demolish structure.
3. Non-compliance allows for necessary action by public officer.

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[a]Source: Town of Long Beach Ordinance, no date.

4. Code establishes minimum standards for health, safety and morals of the Town of Long Beach.

Water System Ordinance

Effective Date: June 21, 1973

Application: All owners of improved property within the corporate limits and upon or within a reasonable distance of any water line owned and operated by the Town of Long Beach.

Provision

Connection of premises with the Town's water system is required.

Zoning Ordinance

Effective Date: July 17, 1975.

Application: Within the corporate limits of the Town of Long Beach.

Summary of Provisions

1. In order to regulate and restrict building location, height and size, yard and open space size, and density of population, the Town of Long Beach is divided into 7 zones.

   a. Residential Districts 1, 2, 3, and 4.

   b. Business District

   c. Restricted Business and Office

   d. Open Spaces

2. Boundaries of each district are indicated on the "Zoning Map" of the Town of Long Beach.
3. A certificate of occupancy from the Building Inspector must be received before land shall be used or occupied, or building structurally altered or erected.
4. A Board of Adjustment is established for the purpose of hearing appeals over decisions of the Building Inspector and authorizing variances.
5. Applications for a building permit shall be accompanied by a plat drawn to scale.
6. Requires application for permit from Planning Board before subdividing or resubdividing.
7. Allows the Board of Commissioners the power to change the boundaries or regulations herein or subsequently established.

Subdivision Regulations for Long Beach, North Carolina

Effective Date: December 19, 1974

Application: All divisions of parcels of land 2 acres or larger in size into 3 or more lots where a street right-of-way dedication is involved within the jurisdiction of Long Beach.

Summary of Provisions

1. Plat to be submitted for approval of Planning Board must conform to specific requirements.

2. Planning Board to review and take action on the preliminary plat within 30 days after first consideration.
3. Prior to approval of final plat, subdividers shall have installed improvements specified or guaranteed their installation as provided.
4. The final plat constitutes only that portion of the preliminary plat proposed to be recorded and developed at that time.
5. Final plats are reviewed by Planning Board. Town Council then reviews plat and recommendations of the Planning Board.
6. No construction permits shall be issued nor town services or facilities extended to subdivisions until final plats are approved.

Flood Insurance Ordinance

Effective Date: December 30, 1974

Application: Within those incorporated areas of Long Beach designated as Special Flood Hazard Areas by the Flood Maps.

Summary of Provisions

1. A building permit is required for any new construction or substantial improvement of residential and non-residential buildings in Special Flood Hazard Areas.

2. Requirements for Issuance of Permit - Residential

   a. Lowest floor elevated to or above applicable level of 100-year flood.

   b. Assurance that the proposed construction shall be designed and constructed so as to minimize flood damage.

3. Requirements for Issuance of Permit - Non-residential (same as for residential except that flood-proofing may be substituted for elevation of first floor level)

4. In Coastal High Hazard Areas-Additional Requirements

   a. All non-conforming uses on land below the 100-year flood level shall not be expanded.

   b. Land shall not be developed unless the new construction or substantial improvement shall be located and designed so as to minimize impact of abnormally high tides or wind driven waves.

Current Plans and Policies Concerning Land Use in Long Beach

Water and Sewer

1. Comprehensive Water and Sewer Plan - Region "O", Henry Oesen and Associates, Inc., for Cape Fear Council of Governments, 1972.[a]

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[a]Region "O" includes Brunswick, Columbus, Pender and New Hanover Counties.

Recommendation

(A proposed water treatment plant and system located near Southport would initially provide finished water for the Town of Long Beach.)

2. Inventory of Facilities - Regional Water Supply and Wastewater Disposal Study, Wiggins-Rimer and Associates for Cape Fear Council of Governments, 1973.

Conclusions

a. The Town of Long Beach is in the process of securing Farmers' Home Administration financing to expand its water system to serve all its residents.

b. Long Beach is not at this time in the process of developing public sewage facilities.

c. Continued growth in the area will require a rational, regional approach to solving wastewater disposal problems.

Transportation

1. Regional Development Guide Year 2000 - Region "O", Cape Fear Council of Governments, June 1972.

Recommendations

a. The improvement and extension of US 17 through the Region.

b. Development of connector linking all Brunswick County beaches and tieing-in both ends with US 17.

2. Transportation Needs Study - Region "O", Traffic Planning Associates, Inc., for Cape Fear Council of

Governments, 1971.

Recommendations

a. Provide a limited access facility generally parallel to the coast serving the recreation and population center.

b. From above facility, provide additional connections to the major beaches and inland recreation areas with high type secondary roads.

There are no utilities extension or open space and recreation policies in effect in Long Beach.

CONSTRAINTS

Physical

There are certain areas of Long Beach where development would be either especially costly or likely to cause undesireable consequences because of the inherent characteristics of the land and water. The permeability of soils, their susceptibility to flooding, and their biological productivity can and have exerted influence upon the choice of land areas that can most economically, and with the least risk and uncertainty, be put to various uses.

Flooding

The U. S. Geological Survey (USGS) and Corps, under U. S. Flood Insurance Administration contracts, are mapping Flood Prone Areas. The purpose of these maps, as stated on each map, is to "show administrators, planners and engineers concerned with future land developments, those areas that are subject to flooding." The flood prone areas shown on these maps have a 1 in 100 chance on the average of being inundated during any year. Flood Prone Area maps have been completed by USGS to date at 1"=2,000' scale for only a limited part of Long Beach.

The Corps has conducted a study of storm flood levels in the Long Beach area in order to assess the need for flood protection measures. According to the Corps, a storm with an occurrence frequency of once in 100 years will produce a surge level of approximately 12.50 ft msl (U. S. Army Corps of Engineers 1973).

There are a few developed areas of the Town that are subject to ponding during periods of heavy rains; in some cases soil conditions are

such that percolation and heavy runoff are seasonally very slow; in other cases, poor alignment of streets and roads results in low spots that collect and hold water. For example, there are parts of Beach Drive, particularly between 40th and 20th Streets West and around 46th Street East, where improper road construction causes ponding.

Soils

According to the U. S. Soil Conservation Service (SCS) General Soil Map for Brunswick County (1969), there are three soil associations present within the Town of Long Beach, each with its particular characteristics and degrees of suitability for various purposes. The Coastal Beach-Dune Sand Association is found in the dunelands in Long Beach, extending inland for various distances along the coast. Deposited by both existing and past wind and water action, this soil is often found forming inland sand dunes and ridges as well as foredunes. It is a fine to coarse sand, excessively drained, with varying amounts of marine life deposits. The sands of the Coastal Beach-Dune Sand Association, principally because of their rapid drainage, are classed as having moderate to severe limitations for septic tanks because of their frequent inability to filter wastewater in large quantities, particularly as found in areas of high population density. Further limitations of these soils are usually associated with their proximity to the ocean and susceptibility to flooding.

The Capers Marsh (fresh and salt) Association, characteristically very poorly drained and subject to frequent storm and tidal overflow, is found in several locations in Long Beach. This association is formed by both the deposition of silts, sands, and clays in the slowly moving waters of the estuary and by the build-up of organic debris that is entrapped by vegetation growing in it. The wetness and regular flooding of the Capers soils render them generally unsuitable for septic tank fields; the Capers

soils also tend to have low traffic supporting capacity so they are poorly suited to support buildings, roads, and streets.

The third soil association found in Long Beach is the Lakeland-Rimini-Wagram, consisting of sand or loamy sand surfaces with sand to sandy clay loam subsoils. The soils of this association are found underlying relatively high forested (or formerly forested) areas of the town, and vary from well to excessively well drained. The limitations of this association for septic tanks tend to be severe only in instances where a high water table forms a water supply; in this case, contamination of that water supply could easily result. There are moderate limitations to use of these soils for foundations due to the moderate bearing strength of the Lakeland soils.

Land in Long Beach is virtually level. Slopes exceeding 12 percent are confined to dunelands and should not in themselves represent a contraint on development.

Sources of Water Supply

Groundwater comprises the sole source of water supply for both public and private water systems in Long Beach. The most important groundwater aquifer in the area is the Castle Hayne limestone formation which lies south of Route 17 in Brunswick County and east of the Lockwoods Folly River (Wiggins-Rimer and Associates 1973). Water levels in the Castle Hayne range from 15-25 feet below the surface with wells in it yielding up to 250 gallons per minute (Wiggins-Rimer and Associates 1973). According to the study, recharge to the Castle Hayne in this area is accomplished directly by rainfall; therefore, water supplies would be easily subject to contamination from the surface.

Fragile[a]

Wetlands

Within the Town of Long Beach there are numerous creeks, channels and ponds which, with their adjacent marshlands, comprise valuable brackish and saltwater wetland areas. By virtue of the AIWW and Lockwoods Folly Inlet, the flow of all the creeks and channels in Long Beach is interconnected to a certain degree. For the purpose of description, however, the wetland areas can be divided into four sections, three saline systems and one brackish.

In southeastern Long Beach, a brackish pond and marsh system occurs immediately behind the frontal dunes, from 58th Street East across the Yaupon Beach town line. The ponds are drained by a small canal which flows westward into the Big Davis Canal. The overall wetness of the pond area, its susceptibility to overwash from the ocean, and the high erosion rates of the beaches in this area have probably contributed to its present undeveloped status. The pond area is important to the Town both for the prime waterfowl habitat it provides and for its potential value as a natural scenic recreation resource.

The three remaining wetland areas of Long Beach are saline marshes and tidal flats characterized by the very poorly-drained Capers soil and dominant vegetation of marsh grasses

For the purpose of better defining their significance, tidal marshes can be divided into two categories; low tidal and high tidal

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[a]No complex natural areas, areas sustaining remnant species or unique geologic formations, registered natural landmarks, archeologic or historic sites have been identified in Long Beach.

marshes. Low tidal marshland is defined as that consisting primarily of Spartina alterniflora and usually subject to unundation by the normal rise and fall of lunar tides (N. C. Coastal Resources Commission 1975). The particular significance of the low marsh is based on its high yield to the estuarine waters of organic detritus, which serves as a primary food source for various species of finfish and shellfish, such as menhaden, shrimp, flounder, oysters, and crabs. The roots and rhizomes of Spartina alterniflora serve as waterfowl food, and the stems as wildlife nesting material. Low tidal marshes also help to retard shoreline erosion (N. C. Coastal Resources Commission 1975).

High tidal marshland is subject to occasional flooding by tides, including wind tides, and is characterized by a variety of marsh grasses, including Juncus roemerianus and various species of Spartina. The high marshes also contribute to the detritus supply of the estuarine system and support a diversity of wildlife types; they function as effective sediment traps and as a further deterrent to shoreline erosion.

The Elizabeth River-Dutchman Creek-Dennis Creek estuarine complex extends from the extreme northeastern end of Long Beach to the south and west of Southport. This complex is characterized by oyster flats, worm and clam flats, and highly productive low salt marsh which contributes significantly to the food base of many types of estuarine communities (U. S. Army Corps of Engineers 1973).

Beginning at 40th Street East and extending westward to Montgomery Slough, the Big Davis Canal estuary separates the wooded residential areas of Long Beach from the ocean front lots. The Big Davis system is characterized by both low and high marsh species including small shrubs along its southern boundary.

The Big Davis Canal estuary grades into the Montgomery Slough-Eastern Channel-Lockwoods Folly Inlet estuary complex in the vicinity of Pinner Point. Eastern Channel is shallow and deposited mud and sand form a plug restricting water movement into and out of the channel area; as a result, the sands and muds are often exposed at low tide (U. S. Army Corps of Engineers 1973). Montgomery Slough is deeper, with a network of shallow tidal creeks and wide areas of what the study calls "cordgrass marsh." The slough area is classified as a primary nursery area by the State of North Carolina Division of Commercial and Sports Fisheries, signifying that the area is never opened to commercial fishing because of potential danger to estuarine resources (U. S. Army Corps of Engineers 1973). The Lockwoods Folly Inlet area is characterized by broad expanses of mud flats, exposed at low tides and covered by intertidal oysters and broad expanses of regularly flooded low salt marsh.

Portions of the Lockwoods Folly Inlet, Montgomery Slough, and the Big Davis Canal estuaries are controlled by the State of North Carolina as Oyster Management Areas. The state regularly places shell in this area to furnish suitable "attachment material" for oysters (U. S. Army Corps of Engineers 1973).

Estuarine Waters

The estuarine waters that surround the coastal wetlands in Long Beach are some of the most productive natural environments in the area and support many finfish and shellfish species for all or part of their life cycles. According to the statuatory definition, estuarine waters in North Carolina include all of the waters of the Atlantic Ocean within its boundaries, and all the waters of the bays, sounds, rivers, and tributaries thereto seaward of the dividing line between Commercial Fishing

Waters and Inland Fishing Waters; the dividing line between these waters has been established for each body of water by agreement between the N. C. Department of Conservation and Development (now DNER) and the N. C. Wildlife Resources Commission /G. S. 113-229(n)(2)/. All of the surface waters in Long Beach are within Commercial Fishing Waters and, as such, are designated estuarine waters of North Carolina.

Public Trust Areas

The State of North Carolina supports the traditional public rights of access to and use of lands and waters designated Public Trust Areas for purposes, such as navigation, fishing, and recreation. Public Trust Areas include estuarine waters, navigable water bodies to their "ordinary" high water marks, and all lands beneath these waters. The state allows appropriate private development within Public Trust Areas, provided the development is not detrimental to public trust rights.

Ocean Beaches

Long Beach has approximately eight miles of ocean shoreline with an average beach width of 66 ft (U. S. Army Corps of Engineers 1973). The ocean beahces consist of unconsolidated soil material without vegetative covering; they are characteristically of a larger soil particle size and lower slope than the adjacent sand dunes into which they grade. The character of the sand deposits on ocean beaches is dynamic in nature, responding to fluctuations in the forces which cause their deposition and erosion. Tidal action, littoral currents, and storms cause a continual movement of sand both along the beach and between the dunes and deeper ocean waters. The resultant changes in beach morphology cause the shoreline, theoretically demarking the confluence of land and water, to shift to the point of being virtually undefineable.

According to the Corps, the shoreline from 58th Street East to the Yaupon Beach town line is characterized by an absence of back shore

dunes and a high degree of shore erosion; between Lockwoods Folly Inlet and 58th Street East, the dune line is hummocky, offering some degree of shore protection.

The ocean beaches are the most valuable natural recreational resource in Long Beach, and are extensively utilized as such. The Corps (1973) estimated 1973 average summer daily beach use in Long Beach to be 6,300 visitor days on weekdays, 8,400 on weekend days, with a total annual visitor demand of 825,930.

Sand Dunes

Sand dunes are valuable both for their esthetic appeal and for the protection they afford the beach and the land behind them. Where stabilized by vegetation, a foredune can act as a temporary buffer to the erosive effects of storm wave action. For the most part, however, dunes are relatively unstable land features over time and as such, are hazardous areas for the location of permanent structures.

In August 1970, the Corps of Engineers surveyed Long Beach and produced a topographic map with a 2 ft contour interval at 1"=400' scale; from this map, the height and condition of the foredunes along the Town's beach can be compared. At the southeastern edge of Long Beach, near Lockwoods Folly Inlet, the foredunes are irregular (do not form a distinct duneline) but from 14-22 ft above msl. From this area to the Long Beach Pier, the irregularity continues but heights are generally 10-14 ft above msl, with only isolated dunes rising to 20 ft above msl. A distinct but low foredune line begins near the Long Beach Pier and continues to the vicinity of the Ocean Crest Pier; a distinctive duneline appears again between 29th

and 58th Streets East. Along the remainder of the Long Beach coast, the foredunes are low and irregular, with virtually no dune development between 58th Street East and the Yaupon Beach town line.

Excessive Erosion Areas

"Storm erosion of beaches and dunes of the North Carolina coast has always occurred, but it has not been a serious economic problem until recently when increased development of beach front property has taken place" (Knowles et al 1973). Knowledge of the patterns of coastal erosion is essential to the safe and productive development of a coastal region.

The continual erosion and accretion occurring along a beach result in a gradual change in the location of both the high water and dune lines over time; excessive erosion and accretion, as accompany large storms, can affect a change in the location of these lines very rapidly. In the course of a large storm, great quantities of beach and dune sand can be eroded from a site and replaced by subsequent accretion, with no net erosion resulting. Structures situated on these sands, however, once removed, are seldom replaced intact. Planning for safe development of beach front property must take into account both long term erosion trends, established from historical records, and the probability of extensive shorter term erosion losses predictable by scientific study.

A study of erosion and accretion rates on the Long Beach shoreline between 1938 and 1972 reports net accretion of the duneline occurring between 1966 and 1972, but net erosion of the dune and high water lines over the total 34 years. Table 1.3 compares recent with long term rates of change in Long Beach.

Table 1-3. Mean annual rates of change (feet per year), 1938-1972[a] in Long Beach.

	1966-1972	1938-1972
High water line	0.4 erosion	0.9 erosion
Dune line	2.3 accretion	0.6 erosion

[a]Source: Wahls, H. E., 1973. A survey of North Carolina Beach Erosion by Air Photo Methods, North Carolina State University Center for Marine and Coastal Studies, Raleigh.

The Corps (1973) reports a current average shore recession in Long Beach of 3.6 ft per year. The Corps study divides the Long Beach shoreline into the following two sections: Section I - Lockwoods Folly Inlet east to 58th Street East, a distance of 37,200 lineal ft; Section II - 58th Street East to the Yaupon Beach town line, a distance of 6,400 lineal ft. The beach area lost to erosion annually averages 3.074 acres in Section I and .529 acres in Section II.

The amount of dune erosion that will take place during a storm of a given frequency depends on several factors, primarily the storm surge level, the height and massiveness of the dune, and the distance of the dune from the mean water line (Knowles et al 1973). In Long Beach, the calculated recession from the toe of the dune during a storm with an expected frequency of once in 25 years is approximately 142 ft (Knowles et al 1973).

Erosion and accretion occur normally along the shorelines of estuarine marshland in Long Beach, but generally to a much lesser degree than along its beaches. Erosion in the channels and along the AIWW is often accelerated by the wake of motor boats; accretion in these waters is accelerated when sands and silts, carried by streams from the mainland, settle out in the calmer waters of the sounds. Costly bulkheading of canal front property and maintenance of navigation channels is often required for developments in these areas.

Community Service Facilities

The provision of community service facilities in Long Beach is complicated by several factors. Geographically Oak Island is isolated from the rest of Brunswick County, being connected to the mainland only by the Oak Island Bridge. The bulk of Brunswick County is rural, with isolated areas of industrial growth and urbanization. County-wide community facility planning must take into account the needs of the majority of the county; county-wide facilities are generally centered around the larger urban and industrial centers. Recommendations for a county-wide solid waste collection and disposal system (Cape Fear Council of Governments 1972) virtually ignore the needs of the Oak Island communities and suggest collection routes that do not cross the Oak Island Bridge. A County waterline extends south to the bridge, but dead ends without crossing the waterway. The Brunswick County School and health systems serve island residents, but schools, hospitals and clinics are all located on the mainland.

Oak Island is approximately eleven miles long; Long Beach extends for eight miles. The major concentrations of both permanent population and commercial activity are located in the eastern part of town; the extension of municipal services to these areas presents few problems. But there is permanent and seasonal residential and commercial development throughout the western part of the Town at densities often too low to make the delivery of services cost effective. The length of the Town requires the maintenance of two fire stations in order for all parts of the jurisdiction to be within the required three road miles from a station. Solid waste collection equipment must make long rounds in order to serve outlying areas of population.

The substantial seasonal changes in the Town's population cause additional problems in the planning, distribution and maintenance of Town services. Water and sewer facilities must be designed to serve a peak population in summer, but serve, most of the year, a smaller year round population. Equipment required for the operation of fire and police protection and solid waste collection is too costly to let stand idle in winter months, but must be sufficient in number to handle increased use in summer.

Solid Waste

Solid waste collection in Long Beach is conducted by the Town; the landfill for solid waste disposal is operated by Brunswick County. The 1974 N. C. Department of Human Resources "Rules and Regulations...for Solid Waste Disposal" require that vehicles or containers used for the

collection and transportation of garbage be covered, leakproof, durable and of easily cleanable construction. The Long Beach Sanitation Department operates three compactor-type trucks (two side loaders and one rear end loader) all of which meet those regulations. Sanitation Department personnel include five men who pick up garbage house to house twice each week.

The location of the landfill, approximately eight miles north of Oak Island, requires long drives to the disposal site in addition to the distance traveled throughout the Town. The increased population in summer necessitates additional trips to the landfill to dispose of increased solid waste loads.

In 1975 approximately $40,000 of the General Fund was allocated to the Sanitation Department; 79 percent of that allocation went for salaries, 9 percent for capital outlay and the rest for operations, maintenance and repair. The future solid waste collection needs for Long Beach cannot yet be estimated; few records of solid waste volumes have been kept in the area either on a total or per capita basis. If the Long Beach Sanitation Department were to keep accurate records of volumes it collects (in both summer and winter months), future solid waste collection needs could be established and planned for.

Fire Protection-Emergency Rescue

Fire protection in Long Beach is provided by the Long Beach Volunteer Fire Department. The Department is funded by an annual appropriation

($600) from the County, annual allocations from the Town General Fund ($13,286 in 1975) and fund raising projects sponsored by the volunteers. Town allocations are used for the purchasing of equipment, utilities and gas; County and fund raising projects provide for the upkeep on equipment and buildings. The Town owns all equipment; the Department controls its use.

The Fire Department serves the whole municiple jurisdiction by means of two fire stations; both are located on Oak Island Drive, one between 46th and 47th Streets East, the other between 1st and 2nd Streets East. Fire calls (and rescue squad calls) ring emergency phones in 26 homes of volunteers and set off a siren system that can be heard throughout the Town.

The Long Beach Fire Department personnel are all (33) volunteer, pledged to duty at a moment's notice. Fire equipment includes a 1971 Ford with a 1000 gallons per minute (gpm) pump and 750 gallons tank; a 1957 2½ ton firetruck with a 500 gallons tanks and 500 gpm pump; and a 1943 International 2½ ton military truck with a 1200 gallons tank.[a] All equipment is reported to be in good condition.

The Long Beach Volunteer Fire Department has been given a fire protection insurance rating of 9A by the North Carolina Fire Insurance Rating Bureau. According to the Cape Fear Council of Government's Alternatives for Improving Fire Protection in Region 'O'" (1974), it is

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[a]John Berry, Town Manager, Personal Communication, list of Fire Department Equipment.

the Town's lack of an adequate water system that prevents the Department from receiving a better rating. The existing public water system covers only the first three blocks of beach front property. There are eight hydrants in the beach area connected to 4 inch water pipes, but there are no pipes or hydrants in high value business districts.[a] The expansion of the municipal water system to serve the whole Town could provide better fire protection to the townspeople, thereby lowering the insurance rating and the cost of insurance premiums.

The Long Beach Volunteer Rescue Squad is operated in conjunction with the Fire Department. Rescue Squad equipment includes a 1974 Dodge van ambulance, a 1969 Chevrolet ambulance, and a 1968 Oldsmobile 4-wheel drive ambulance. In addition, the Town maintains a 16 ft flat bottom fiberglass motorboat, a 1948 military jeep, and a 1963 Willis (civilian) jeep. Rescue Squad equipment is capable of handling water related emergencies, such as drowning and boating accidents, as well as land emergencies; but there are no doctors practicing in the Town and emergency victims must be taken to Southport.

Police Protection

Police protection and law enforcement in Long Beach is one of the Town's most costly services. General Fund allocations to the Police Department in 1975 amounted to 38 percent of the total General Fund expenditures. The financial assistance provided by the Law Enforcement Assistance Administration (LEAA) in 1975 alleviated some of the pressure

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[a]Town of Long Beach "Report of Fire Conditions" to the Commissioner of Insurance, Raleigh, N. C., 1975.

on the Town budget; LEAA appropriations totalled $32,066, or 18 percent of the Police Department Expenditures. Salaries account for 81 percent of the Police Department budget; auto supplies and capital outlay for equipment are the next two major expenses.

The Long Beach Police personnel include 10 patrolmen year round with 3 auxiliary officers hired in the summer tourist season. Police force equipment includes 5 patrol cars; 3 marked and 2 unmarked.

Water and Sewer

In order to make an "Inventory of Facilities--Regional Water Supply and Wastewater Disposal Study," Wiggins-Rimer and Associates (1973) sent questionnaires to municipalities in Region 'O' concerning water supply and sewage treatment facilities. The report indicates the reply to the questionnaire from the Town of Long Beach was incomplete.

The Town of Long Beach has four wells with a combined pumping capacity of .81 million gallons per day (mgd). The wells are: number 1 at 39th Street East and East Ocean Hwy., numbers 3 and 4 at Middleton Avenue and East Ocean Hwy., and number 2 at 27th Place West and Pelican Drive. Well number 1 is a six inch well, 181 ft deep, with a pumping capacity of 150 gpm; number 2 is a six inch well, 145 ft deep, with a 150 gpm capacity; number 3 is an eight inch well, 165 ft deep, with a 200 gpm capacity; and number 4 is an eight inch well, 165 ft deep, with a 175 gpm capacity. Mains from the wells to the beach area are 8 inches in diameter; lines running along the beach front are 4 inches.[a]

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[a]John Berry, Town Manager, Personal Communication, map provided.

The water system currently serves only the first three blocks of beach front development; there are approximately 500 connection to the water system. There are no water meters to monitor total flows or individual water usage, thus neither average nor peak summer water consumption is known.

In 1975 CZRC made a count of residential buildings in the Town; results of the count show a total of 2,273 residential structures. The total number of water using public and business structures such as restaurants, shops and marinas is not known. It can nonetheless be assumed that only about 20 percent of the Town's buildings are connected to the public water system; the remaining 80 percent rely on private water supplies from individual wells.

According to Wiggins-Rimer and Associates (1973), there are adequate quantities of ground water in the area but some problems with high iron and calcium content have been encountered. The inadequacy of the public system is a problem in fire protection; a lower insurance rating could only be achieved by extension of the system to serve the whole town.

There are no public waste water disposal facilities in Long Beach; sewage disposal is achieved by individual subsurface disposal methods, either septic tanks or privies. Soil conditions vary in the Town from the wetness and high water table characteristic of the Capers soil, to the excessive drainage of the Newhan sands, to the Lakeland-Rimini-Wagram soils underlying the higher forested areas of Town. The

suitability of these soils for septic tanks differs in different locations, but ultimately depends everywhere on population density. The soils in Long Beach overlie the shallow water table aquifers from which some drinking water supplies are drawn; contamination of these water supplies is a serious potential problem.

There are currently few problems with water supply or surface water contamination in Long Beach. Population density throughout most of the Town is still relatively low, and little development at all has occurred on the highly unsuitable Capers soils. The continued use of septic tanks on small lots, however, will in the future create overloaded conditions.

Recreation

The beaches and waterways in Long Beach constitute the principal recreation facilities of the Town. Waterfront land is in private ownership but public access to the waterways and beaches is provided by the Town. There are 44 N-S streets whose dedicated rights-of-way extend to the high water line of beaches; there are approximately 750 ft between each right-of-way providing ready access to the public. The Town maintains three boat ramps on the waterway providing both pedestrian and boat access to waterway recreation activities.

There is currently one municpally owned recreation area in the Town, Middleton Park, located behind the Town Hall. Park facilities include two lighted tennis courts, basketball courts and a lighted regulation "Little League" baseball field. In September 1974, H. A. Templeton, Jr.,

representing National Development Corporation in a special meeting of the Town Board of Commissioners, offered as a gift to the Town a 165 acre tract of marshland to be used for park development. The tract of land is bounded on the east by 40th Street East, on the west by Middleton Street, on the north by Big Davis Canal, and on the south by the southern boundary of the marshline. Tentative plans for the marshland area call for development of an open "salt marsh museum" of marine and aquatic life, and construction of foot bridges across the marsh for views of natural marsh habitat. The deed to the property has not yet been transferred to the Town, and development of the park area is not yet underway.

In 1974 the Town of Long Beach established a Recreation Department; previously, the development of public recreation facilities was operated by volunteers interested in developing year round recreational activities. In 1975, budget allocations to the Recreation Department constituted four percent of the total General Fund Expenditures. Fifty-nine percent ($10,300) of the Recreation Department expenditures for the year is allocated for capital outlay; 12 percent for slaries (lifeguards).

(No Areas with Resource Potential as defined in the CRC Guidelines have been identified in Long Beach.)

SECTION II

ISSUES, OBJECTIVES AND STANDARDS

MAJOR ISSUES AND GENERAL ALTERNATIVES

The permanent population of Long Beach increased by 383 percent between 1960 and 1970, and probably more between 1970 and 1974. No comparable estimates of the increase in vacationing residents is available, but the tremendous growth in tourism throughout the North Carolina beach areas between 1960 and 1975 would suggest high growth rates of seasonal population as well.

Long Beach was originally developed as a summer resort area. Until recently, the lack of employment bases, the relative inaccessibility of the town, and the limited community services have precluded substantial year-round residency. The seasonal nature of vacation activities continues to produce a much higher summer population; but in the last few years, Long Beach has also become the permanent residence of many people employed in nearby industries and of retired persons who formerly just visited in summer.

There are now three distinct segments of the Long Beach population - younger family units, retirees, and vacationers -- each of which has differing interests in the future of the town. As the population of the town has increased, so has the need for public services such as solid waste collection and police and fire protection, and for commercial support facilities such as shopping areas, restaurants and motels. But the public and commercial service facilities desired by the different segments of population often differ both in kind and extent. The town's financial and human resources are under constant pressure to keep pace with the increasingly diverse needs of its populace.

Questionnaires were distributed throughout the town (see Appendix A) to appraise local views of major problems, needs and objectives. There was substantial concensus of opinion on the principal attractions of the town; it is the recreation resource value of the beaches and waterways, the uncrowded living conditions, and open space that draw people to Long Beach. But the increase in demand for living space has put increasing pressure on the town's physical resources to absorb more intense land use. Roadways have been carved out of woodlands, shrub and grass vegetation removed to accommodate construction, and soils in some areas pushed close to the limit of their ability to filter wastewater. The esthetic and recreational value of the beaches and waterways have suffered from increased use, with resultant beach litter, dune damage, and channel erosion and siltation. Economic losses have been incurred as well - privately in the form of beach front property losses and publicly in the form of reconstruction of roads - as a result of development situated in areas prone to damages from erosion and storms.

The development industry of Long Beach has responded to the increase in demand over the years with the subdivision of large parcels of land into small lots. Most land use problems that have occurred in Long Beach, such as the loss of property to erosion, the obstruction of navigation channels by siltation, and extensive hurricane damages, are the direct result of attempts to develop the existing land surface beyond its inherent capacity for that development. Development does not cause hurricanes, erosion or siltation; but inappropriate development activities can accelerate the damage caused by these natural phenomena and

create new problems such as overcrowding, contamination of water supplies, and the general degradation of the natural resources on which the town is based.

Development Patterns

The grid road pattern developed throughout the town, and the subdivision of virtually all the developable land into rectangular lots have been and will continue to be the major determinants of land use in Long Beach. There are presently a total of 12,274 platted lots (11,825 zoned residential and 449 commercial) within the 7.3 square mile jurisdiction. Many lots in each of the many subdivisions have already been sold to private individuals. Lots sold may not yet be built upon; but their separate individual ownership limits the town's ability to change the direction of development even though problems with the existing development pattern are recognized.

Some of the problems Long Beach now faces could perhaps have been avoided with more careful planning for the growth which has occurred. Long Beach development began in the early 1940's with the construction of Beach Drive and single family cottages on the beach front. By the early 1950's, Beach Drive was extended westward to Lockswood Folly Inlet and several rows of cottages were situated along the shore. The natural foredune line is poorly developed in most areas and has been characterized by erosion throughout the town's history. By 1975 a total of 2,688 ocean front lots[a] has been developed, from 58th Street east to

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[a]Ocean front lots here refer to those lots platted south of East Pelican Drive, the Big Davis Canal and Eastern Channel.

the tip of the inlet, with little regard for the inadequacy of the frontal dune system to protect them. The area is "in a hazardous geographic zone with respect to movements of Atlantic Coast hurricanes" according to the Corps (1973) but commitments have been made to maintain beach front roads despite the constant assault on them by erosive ocean currents.

Storm Damage

In October 1954, Hurricane Hazel hit Long Beach, causing virtually total destruction of all ocean front development. "There was hardly a vestige of human habitation on the Brunswick County shore following Hurricane Hazel" states the Corps (1973), with predictions that "had development been complete in the area, it would also have been totally destroyed." Not only were buildings lost, but roads as well. The inlet land was breached in the vicinity of what is now 57 Place West, making a separate island of the last 1.2 miles of ocean front property. The probability of frequent recurrence of a hurricane with Hazel's destructive force is slight; but the probability of recurrence of hurricanes with lesser but still damaging winds and waves is high.

An historical study of Locakwoods Folly Inlet's migration shows that significant changes have occurred in the position and width of the inlet between 1938 and 1972. Net inlet migration over the years has been in a westward direction, but movement eastward of 171 feet occurred between 1961 and 1966 (Langfelder et al. 1974). The erosive currents of the inlet, Eastern Channel and the ocean continually change the configuration of the inlet lands. Erosion of the Beach

Drive shoulder and roadbed has necessitated realignment of the west end of the road several times over the years; the waters of Eastern Channel are now again abutting the road shoulder.

The path of inlet migration during a large storm is unpredictable but can be expected to follow the course of least resistence in closest proximity of main watercourses. According to the Corps (1973) "there exists some speculation that there is a natural propensity for the inlet to be located 3,000 to 5,000 feet east of its present location so that the inlet would be closer to the mouth of the Lockwoods Folly River." During Hurricane Hazel, a new inlet was cut directly west of the mouth of the Lockwoods Folly River. The 1859 coast survey locates the inlet at a position about 3,000 feet east of its present location. After the new inlet's opening in 1954, the suggestion was made that the existing Lockwoods Folly Inlet be closed and the new inlet be allowed to develop. However, the majority of local interests were opposed to the idea; and at their request the Corps closed the new inlet in 1958. Rapid development of the area began again soon after 1958 and has proceeded in the same manner ever since.

There are risks inherent in the ownership of beach property due to weather patterns and the changeable nature of the environment. Some degree of shoreline erosion must be expected to occur over time, new inlets open where once there was solid land, and the high winds and waves of hurricanes cannot be avoided. But to a certain extent, damages from these forces can be reduced by the proper design and location of roads and structures and by care taken to avoid the destruction of natural protective features.

To be successful, storm and erosion protection measures must be practiced throughout a hazard area, as one man's efforts to protect his property can be thwarted by the negligence of neighbors. The elevation of buildings on pilings to a level above the level of breaking waves can prevent storm wave damage; but the erosion of sands on which the building is situated can cause the collapse of a structurally sound building that is located too close to the moving water. Homes can be stiuated sufficiently far inland to be safe from actual wave and erosion damage, but may remain susceptible to the battering ram action of flying debris from the breaking up of other structures not so well situated. A gap in the duneline on one lot can initiate flood and erosion damage on adjacent lots. The risk of damage from a new inlet's opening is borne equally by public and private facilities located on the oceanfront.

The health and safety of human life, the protection of property, and the preservation of those natural resources which make beach areas both attractive and economically productive must be primary matters of local public policy. To be appropriate, development of beach areas must consider not only the immediate return on the private investment dollar, but also the long-range impact on community resources, values, and welfare.

Community Service Provision

Earlier planning for growth in Long Beach could have prevented many of the problems the town has encountered in attempting to provide efficient community service facilities. Facilities designed ahead of

time to meet anticipated future demands can generally be installed at a lower unit cost than those that are designed to catch up with a demand that already exists. Developed land is more expensive than undeveloped and the cost of condemnation proceedings to obtain public land for municipal services increases as the value of the land to be condemned increases.

Public Water Supply

In the course of Long Beach development, a public water system was established. A total of four wells have been drilled behind the beachfront lots with lines extended along Beach Drive from 58th Street East to the 70th Street West inlet land. But development of Long Beach has spread westward to the AIWW, and throughout the woodland area private wells must still be used. Most of these wells rely on relatively shallow sources of ground-water, as water levels in the surficial sands are generally 50 to 10 feet below the surface. The density of development continues to increase in the woodlands, especially in the northeastern Mixed-Residential section of town. The quantity of ground-water pumped from the underlying aquifers is increasing at the same time as the quantity of wastewater that must be filtered by overlying soils is increasing. There is currently little information available on either the quality of private domestic water supplies or on the continued safe yield of the aquifers as their source.

Responses to Long Beach questionnaires (see Appendix A) indicate concern on the part of town property owners and permanent residents that the water system be expanded to serve the whole jurisdiction.

The availability of good quality public water is seen as the primary limiting factor for safe future growth in the town. The combined pumping capacity of the four municipal wells and the safe yield of their source are both known. But as neither the average nor maximum daily use of the system can be estimated, the number of connections that can be safely added is undetermined. More feasible in the long run than expanded use of the existing source of municipal water would be the extension of the county water main across the AIWW and into the Oak Island communities.

Sewage Disposal

Septic tanks are currently the only method of sewage disposal in the town, despite the severe limitations for septic tanks of the Capers-Newhan soils. Year-round population density is still relatively low and peak seasonal use of the area is short. There has been no indication yet that sewage effluent from Long Beach is causing pollution problems in either the adjacent Class SA estuarine waters or the shallow water table wells. But pollution of estuaries and shallow aquifers, from incomplete nitrification of wastewater, would likely result if population density were to contine to increase rapidly.

The new N. C. Department of Human Resources regulations proposed to govern new septic systems would preclude any new construction in parts of Long Beach, and the erection of higher density buildings most anywhere in the town. The basic issue is the choice between continued reliance upon individual systems and the installation of a municipal sewer system. Connection to sewer lines would not only allow for higher population density in the future, but would relieve

problems caused by any presently malfunctioning septic systems. The natural biological activities and filtration capacity of the soils and estuarine waters can be expected to eliminate any existing pollution in surface or ground-waters over a period of years if the sources of those pollutants are eliminated or reduced to tolerable levels.

Land Use Controls

In 1966, the Town of Long Beach enacted a building code ordinance for the Town and established a Building Inspector to enforce it. The purpose of the building code was to decrease the incidence of fire and accidents, to ensure adequate ventilation and sanitary facilities and to eliminate structural defects. In 1959, the Town enacted a zoning ordinance in order to lessen congestion in streets, prevent the overcrowding of land, avoid undue congestion of population and to facilitate the adequate provision of public services. But both ordinances were passed after substantial land subdivision and development has occurred and street alignments had been made. The substance of both ordinances is the requirement of adherence to only minimum standards deemed necessary to meet stated ordinance objectives.

Parking and Traffic Congestion

The Long Beach Zoning Ordinance requires buildings in residential areas to be set back at least 30 feet from the front property line and the provision of one parking space for each family unit. In the business district, a building setback of 40 feet is required, but parking spaces are not. As a result, there is a severe lack of off-street parking areas in the town and parking on the road shoulder

is usually necessary even in busy commercial areas. Dedicated streets in Long Beach are all two-laned, even Beach Drive which serves as the Town's main thoroughfare. Traffic congestion is particularly a problem during the busy summer tourist season and its associated hazards are augmented by the lack of sidewalks and pedestrian crosswalks.

Unsightly Development

Neither the Zoning Ordinance nor the building code of Long Beach deals directly with the visual quality of development. The use and size of signs and billboards are regulated in residential areas, but on commercial property no controls exist. There are currently no regulations to minimize the removal of vegetation in wooded areas nor concerning the screening off of unsightly parts of commercial establishments. The development of commercial areas has been conducted by numerous individuals over the years with the result of little uniformity in style or quality. Commercial areas designated by the Zoning Ordinance are generally in the form of strip development along East Oak Island Drive rather than concentrated into malls or shopping centers.

Concern has been indicated by all segments of the Long Beach population that the visual quality of the Town be improved and physical amenities be preserved; that future development be planned and land use ordinances be enforced. The establishment of a municipal body charged with coordination and implementation of future planning, permit issuance and ordinance enforcement would help to insure adherence to the standards set for future development.

Priorities for Public Service Facilities

To a great extent, the kinds of public services that are now and will in the future be demanded in Long Beach, as well as the ability to pay for those services, depend on the overall character of the Town. Long Beach continues to function in summer as an ocean resort. Resort communities have the particularly troublesome problem of trying to meet with a small permanent population the needs of a population that is seasonally four or five times as large. Much of the year-round population relies upon the spending of the seasonal (vacation) population for its livelihood; conversely, the seasonal population relies upon the year-round population to provide the commercial services it demands, such as shopping, dining, and lodging, and to operate public services, such as police and fire protection. The unevenness of the population through the year limits expanison of tourist based commercial facilities and causes some businesses in the town to close during the off-season; it is a major problem to the public sector for providing community facilities and services. Facilities and personnel sized to meet the demand of seasonal residents and visitors exceed by far what is necessary to meet off-season demand. The commercial activity created by vacationers directly benefits the Town financially but does not provide adequate revenue to support major service facilities such as sewage treatment plants and public water supplies. Property taxes, which constitute the major source of revenue to the Town, are paid by both resident and absentee property owners who often have different views as to how tax money should be spent.

The lack of commercial activity is viewed as an advantage to much of the Long Beach vacation population who want to see the small beach town atmosphere with its slow pace continue. The limited amount of public service is often viewed as an acceptable price to pay for outdoor recreation-oriented vacations. The commercial facilities vacationers most need are restaurants, grocery stores, gift shops and boating and fishing facilities which the Town now supplies. Some need for additional recreational facilities is stated, but for the most part vacationers indicate a desire for limited growth of commerce.

Many permanent residents of Long Beach, on the other hand, consider the lack of specialty and general merchandise shops -- a bank, a drug store, department stores, and the like -- to be a major problem in the Town; many would like to see a growth of commercial activity both to supply consumer needs and to provide more year-round employment opportunities. The lack of professional services, such as doctors, dentists and lawyers, is a problem to permanent residents as is the distance to neighboring hospitals, schools and libraries. An increase in public and commercial recreational facilities that remain open year-round would receive widespread support from many permanent residents, though perhaps little from vacationers.

The needs and wants of the retired population of the Town are akin in some respects to those of permanent resident families, but in other ways to those of vacationers. Many present retirees bought property in Long Beach long ago and for years visited the Town in

summer. They chose the area for retirement for much the same reason as they had previously chosen it for vacations. The quality of schools and job opportunities are of little concern to them, but their need for adequate health care facilities, year-round recreation activities and transportation service has increased. Many retired persons live on fixed incomes, however, and would have difficulty meeting increased taxes to pay for large-scale increases in municipally financed services.

Analysis of the Long Beach Town Budget indicates a very limited supply of municipal capital available for service facility expansion. Some increase in tax base (thereby, increase in revenue) could be obtained by an increase in the Town's commercial activity. But the low density development desired for the future will preclude substantial increase in municipal revenues, and the scope of services that the Town will be able to offer will by necessity be limited.

As long as the Long Beach population consists of separate elements with differing desires for the kinds of growth to be encouraged in the future, compromises will have to be made in designations of future land uses and the establishment of community service priorities. But before such designations can me made, the desired and feasible overall land use intensity must be determined. Community service facilities can be designed to be adaptable to seasonal pupulation changes; summer vacation activities, if held within the physical and economic limitations of the town to support them, can occur conformably with the activities of the year-round residential population. But in order for service facilities to be designed, traffic to be estimated, and recreational

activities to be planned, the future population to be accommodated - the permanent and seasonal population density - must be established.

Within the 7.3 square mile (4,672 acre) Long Beach jurisdiction there are approximately 3,211 acres of non-march or beach land suitable for development; 85 of these acres are zoned for commercial uses, 3,126 for residential. Given the extention of a public water system to serve the whole town, the physical limiting factor for future development within the developable area of the town will be soil limitations for septic tanks. The State of North Carolina has established no minimum lot sizes for residences with septic tanks; but the Division of Environmental Management's new septic tank regulations and their "Technical Guide for the Evaluation of Proposed Sites for Soil Absorption Systems of Sewage Disposal" imply a need for an average residential lot size of as much as 20,000 square feet or 1/4 commercial acre in Long Beach. Full development of the developable residential acreage of the town, at an average lot size of 1/4 acre, would allow for a total of 11,504 lots. There are currently 11,825 platted residental lots with an average size of .24 acres. There are currently approximately 2,000 residential structures (including mobile homes) in Long Beach[a]. Assuming one structure per lot and, again, an average of 1/4 acre lots, Long Beach has reached nearly 20 percent of its physical capacity for development with septic tanks.

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[a]The Town of Long Beach counted 1,918 residences in 1974. CZRC counted 2,273 residential structures including transient commercial lodging facilities in 1975; the number of these structures that serve as multi-occupancy buildings is unknown.

It should be emphasized that the above figures represent averages only and are based on assumptions of physical land suitability that can only be verified by individual site evaluation. The soils, topography, and proximity to surface and ground-waters in some parts of the town would allow for the safe use of septic tanks on lots smaller than 1/4 acre; in other areas larger lot sizes could conceivably be required. While the average lot size is currently very close to 1/4 acre, there are some areas where lots are larger and others where lots are much smaller. Unfortunately, in most cases it was marketability which determined the size lots developed; there was often little correlation between individual lot size and land suitability.

The above discussion has dealt primarly with building density in Long Beach; population density, though related, is a somewhat different matter. In order to plan effectively for community services, the population expected to occur in the future must be projected; but as the townspeople have certain rights of self-determination, the population they desire to achieve must be evaluated. Future goals can best be achieved by understanding the forces which would promote the former, and establishing policies and standards to change those trends, where necessary, in order to achieve the latter.

Responses to the Citizens Questionnaire (see Exhibit A-2) show that Long Beach townspeople consider septic tanks to be one of the four major problems of the town. The lack of crowded living conditions was cited as the primary advantage to living in Long Beach. There is a strong desire for both permanent and vacation population increases

to occur slowly and for that increase to be accommodated without an increase in overall density. There is overwhelming concern that no multi-story buildings be allowed and that multiple occupancy dwellings (duplexes, apartments, and condominiums) be limited.

The current (1975-76) population of Long Beach has yet to be determined; therefore, neither the past rate of growth nor reasonable population projections can be established. The N. C. Department of Administration (DAO) formulates population projections. But according to DOA's Francine Ewing[a], projections for Long Beach cannot be released at this time. The Town of Long Beach has initiated the conductance of a survey by the U. S. Bureau of Census. Permanent resident and seasonal population projections for the next 5, 10, 20, and 25 years, based on growth goals and historic trends, will be formulated upon completion of the Census survey.

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[a]Personal communication, December 11, 1975.

OBJECTIVES AND STANDARDS FOR LONG BEACH

ADOPTED March 11, 1975

Objective: It is to be the policy of Long Beach to promote development of the Town at a rate commensurate with the goals of the Townspeople and the capacity of the physical and economic resources of the Town to support it.

Standards:

1. In order to determine its current population, the Town will petition the U. S. Bureau of the Census to survey permanent population and will request commercial establishments to record the average and maximum number of vacationers per day using Town lodging facilities in summer.
2. Projections for future population will be based on a growth rate equal to the average calculated growth per year between 1960 and 1976, or a doubling of population from 1975 to 1995, whichever is lower. Community services, including facilities for water supply and sewage treatment, road construction and maintenance, and police and fire protection will be planned for the projected 1995 population needs.
3. The desires of the Townspeople for low density development will preclude development at higher gross densities than are currently permitted by Town ordinances and the erection of any high-rise (over three stories) buildings in the future.

4. The Town will petition the North Carolina Divisions of Health Services and Environmental Management to study the quality and quantity of existing local sources of water supply. Until the public water system has been expanded to serve the whole Town, development may be influenced by the amount that can be safely accommodated by existing groundwater sources.

5. Long Beach plans to study the feasibility of establishing a public sewer system. Until installation of such a system, development may be influenced by the amount which can be accommodated by subsurface disposal methods without causing degradation of surface or groundwater quality.

6. The Town will seek to inventory existing Town business activities and encourage the location of new enterprises that will meet the demands for shopping and recreation facilities and increase year-round employment opportunities for Long Beach residents.

Objective: It will be the policy of Long Beach to promote that quality of development which will offer the maximum reasonable enhancement of the natural and economic resources of the Town.

Standards: 1. The Town will require strict adherence to the provisions of its building code and dune protection, zoning and flood insurance ordinances and will establish policies necessary to protect the aesthetic and protective nature of the dune system.

2. In order to alleviate traffic congestion along the Town's main thoroughfare part of Oak Island Drive will be developed as a four-lane boulevard with a landscaped median.

3. The Town will encourage the concentration of new commercial areas into mall centers with adequate parking spaces and landscaping.

4. The Town will attempt to improve the visual quality of all development by requiring the screening of unsightly parts of commercial areas from the view of the road.

Objective: It will be the policy of Long Beach to promote the safe and enjoyable utilization of the Town's recreational resources.

Standards: 1. The Town will maintain a balanced recreational program for its residents and vacationers. In order to promote recreational use of its waterways consistent with the ecological conditions of the estuarine system, the Town will maintain boat launching ramps along the AIWW and will seek establishment of a public marina.

2. The use of motorized vehicles on the beach strand is prohibited.

3. Efforts will be made in road alignment and construction to accommodate safe bicycle and pedestrian traffic particularly on the north side of Beach Drive and in the vicinity of recreation facilities.

4. The Town will make efforts to reduce the incidence of litter by enforcing the litter ordinance and establishing a beach clean-up program.

Objective: Recognizing that at some time in the future additional access to the Town may be required, the Town of Long Beach has formally recommended to the North Carolina Department of Transportation that the feasibility of constructing a second bridge connecting Long Beach with the mainland be studied.

SECTION III

AREAS OF ENVIRONMENTAL CONCERN

INTRODUCTION

Section I of the Land Use Plan describes physical characteristics of the land and water in Long Beach and specific areas of the Town in which many kinds of development would be either especially costly or likely to cause undesirable consequences. Some of these characteristics, such as the soils' high water table, susceptibility to flooding and low bearing strength, constrain development primarily because of the high costs involved in adapting the land for use. In parts of the Town, intensive development, as for urban, transportation or recreational use, would not necessarily endanger the inherent value of the resource, but would require excessive public or private expenditures for construction, maintaining access, disposing of waste products, or assuring adequate drainage.

In some parts of the Town, however, the undesirable consequences that could result from uncontrolled or inappropriate development are not limited to monetary costs. In particularly valuable or fragile areas, misuse of the land or water can cause degradation of the site's biological, visual, or economic resource value. In particulary hazardous areas, poorly located, designed or constructed development can increase the risk of property loss or endanger the health and safety of people using it. In these areas, designated Areas of Environmental Concern, the Town is establishing specific standards for use and development of each area category in order to ensure that development proceeds in a manner consistent with the capability of the land and water to sustain it.

Ultimately, as required by the 1974 North Carolina Coastal Area Management Act, the North Carolina Coastal Resources Commission (CRC) will designate Areas of Environmental Concern throughout the coastal counties and will designate permit letting authorities to regulate land use within these areas. The following categories and standards are to serve both as guidelines for Town Plan implementation and as recommendations to the CRC for consideration as State Areas of Environmental Concern.

The Estuarine System

The estuarine waters, marshes and mudflats, as defined in G. S. 113-229 and G. S. 113-230, are of primary importance to the Town and the North Carolina coastal area because of their economic, scenic, and recreational resource value. Tidal marshes and estuarine waters cover extensive areas of the municipal jurisdiction; serving as a primary food source for numerous fish and shellfish species, they contribute tremendously to the biological productivity of the area. The major waterways function as transportation corridors for commercial and sport boating activities. The Big Davis estuarine system, which extends the length of the Town, is unsurpassed as a scenic resource, supporting a diversity of waterfowl and subtle vegetation patterns characteristic of the coastal area.

The authority for regulating the use and modification of the estuarine resources has for a number of years rested with state and federal permit letting agencies. But until recently, the degree of regulation exercised was slight and the criteria for permit letting

did not include consideration of the ecological balance in the estuarine system. Approvals for marshland dredging and filling were often as not a mere formality and sometimes granted after the fact. The increasing awareness of the damaged caused by these activities, however, has resulted in much stricter review now of permit applications.

The only kinds of new development that can be justified in the estuary are those that require water access and cannot function anywhere else. Piers, docks and marinas, for instance, connecting water-oriented with upland activities, may be considered appropriate if their need in the area can be demonstrated and their specific location and design can be shown to be the most suitable alternative. The Town recognizes, however, that while a pier or dock itself does not necessarily cause degradation of the value of the estuary, the activities involved in constructing it may. For that reason, the highest reasonable standards of construction will be required for any construction in the area.

Within the estuarine area in the Town are islands of various sizes and origins which, though not marshland or estuarine waters in the strict sense, are a valuable part of the estuarine system. The islands contribute particularly to the scenic value of the estuary by adding topographic relief and plant diversity which provide habitat for a variety of wildlife species. Some of them are significantly large and stable to accommodate some degree of development without endangering the surrounding estuarine resources. But the islands are properly a part of the estuarine system, included within the areas mapped as coastal wetlands; they are, therefore, designated as Areas of Environmental Concern, and the development of any of them will be reviewed on a case-by-case basis.

Complex Natural Areas[a]

There are ponds located in the southeastern part of town which, because their natural drainage patterns have been altered, are no longer subject to regular tidal flooding. Nonetheless, the ponds, with the immediately surrounding marsh land, support native plant and animal communities and provide habitat conditions which have remained essentially unchanged by human activity. The ponds are a valuable scenic and biological re urce, any development in which will be reviewed on a case-by-case basis.

The Beach-Foredune System

The Atlantic shoreline of Long Beach is characterized by sandy beaches, backed by a low, irregular foredune. The beaches are the primary attraction of the outer banks for the residents and thousands of vacationers who visit in the summer. The foredunes are a valuable scenic attraction and a temporary buffer to the erosive effects of storm induced wind and waves. The dynamic nature of the beach-foredune complex, however, precludes safe structural development on it since that development, and the construction activities involved, endanger both the scenic and protective value of the resource and the roads and buildings situated inland.

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[a]Because this category of fragile area and proposed Interim Area of Environmental Concern has recently been redefined by the CRC, the pond area can now be considered a complex natural area.

Because, however, of the recreational use of the beaches and the necessity for adequate access to them, allowances will be made for the provision of structural accessways across the dune provided that utmost care is exercised in their location and construction to prevent damage to the dune and the vegetation growing on it. Allowances will also be made for the erection of safety facilities such as lifeguard chairs, and for necessarily water-oriented recreational structures such as fishing piers.

Hazard Areas

The North Carolina outer banks, as a marketable piece of real estate, is the most valuable area of the coast, sought after for second homes, residences and vacation sites, and for business enterprises to support these uses. But the outer banks as a geologic feature is a dynamic, perhaps transient, land form. The same forces of wind, water and time which caused the creation of the banks' various features constantly modify these features both in location and extent. Problems are encountered when the made-made structures developed to accommodate their use and enjoyment are built to be static and permanent despite their location in an ever changing environment.

Inlet Lands and Excessive Erosion Areas

The only realistic compromise between expensive combat with the forces of nature and complete surrender to their supremacy is development of only the more stable parts of the whole in a manner which those parts can accommodate. The particularly hazardous areas of the Town are designated Areas of Environmental Concern because of the importance of protecting the health, safety and rights of the people who live,

visit and own property there. Any new development in these areas will be strongly discouraged and, unless demonstrated to be directly in the public interest, will not be supported by public funds. In particular, coastal inlet lands and oceanfront property with a high probability of incurring excessive erosion are unsuitable locations for the placement of structures used for housing, institutional purposes, transportation or commerce, and are considered of too high a risk to warrant further public investments into roads, sewer and water lines and other such facilities.

Because of limited data and some inconsistencies in available data, the inland extent of oceanfront property subject to excessive erosion in Long Beach is unknown. For that reason, only a dynamic zone (referred to on AEC map as Ocean Erodible) can be established at this time to warn prospective buyers of oceanfront property of its hazardous location. All construction in this dynamic zone will be required to meet at least the minimum standards of the North Carolina Building Code and conform to the standards of the Federal Insurance Administration for coastal high hazard areas.

Coastal Flood Plains

Much of the municipal jurisdiction is within a U. S. G. S. designated Flood Prone Area, susceptible to inundation during severe storms. In order to reduce both flood damage and the cost of flood insurance, all construction in coastal flood prone areas will be required to meet the Federal Insurance Administration standards for coastal high hazard areas.

Public Trust Areas

Long Beach supports the traditional public rights of access to and use of lands and waters designated Public Trust Areas for purposes including navigation, fishing and recreation. The Town both supports and encourages the development of commercial recreation facilities, especially those that promote the use and enjoyment of its waterways. But to the degree authorized by statute, the Town will require some provision for public access in new developments in Public Trust Areas and will prohibit any development which unduly restricts public access to and use of these areas.

It is obvious from the outset that protection of Areas of Environmental Concern in the Town cannot be accomplished without some consideration of land uses in areas immediately adjacent. The estuarine system along the Long Beach coast, for instance, is only part of the system extending eastward into Yaupon Beach and westward to Holden Beach. Long Beach's regulatory authority to prevent pollution and siltation can be extended only throughout its political jurisdiction. Circulation patterns in the water that transports silt and pollution, however, function without regard to political boundaries.

Plate 2 delineates the approximate location of various categories of municipally designated Areas of Environmental Concern.[a] It must be emphasized, however, that these delineations are not sufficient for most regulatory purposes because of the necessarily small map scale and because, in most cases, on-site evaluations will be necessary in order to determine the precise boundary of a particular category

[a]Some other categories of land and water have been proposed by the CRC for consideration as AEC's. Because of inadequate data, these other areas are not included here at this time.

of land or water. But the Town encourages anyone involved in or contemplating a change in land use in the Town to use this map as a guideline for interpreting municipal and state policy and for predicting the possible effect of public policy on particular parcels of land.

SECTION IV

FUTURE LAND USE

THE DEMAND FOR LAND

A reliable forecast of the amount of growth to be expected over the next 10 or 20 years in Long Beach has not been made at this time because of the lack of acceptable data on current population and previous rates of growth. However, a certified Census count was begun on March 29, 1976; the growth goal calls for a doubling of population from 1975 to 1995.

Factors Influencing Growth

Expectations for continued growth in Long Beach over the next 20 years are based heavily on the rapid growth of the town for the past 20 years, particularly between 1970 and 1975. The seasonal population growth resulted at least partially from nationwide affluence and increased disposable income; the recent permanent population growth resulted primarily from the location of major industry in the vicinity. Long Beach is located in close enough proximity to Brunswick County's metropolitan and industrial growth centers to remain susceptible to suburban spillover in the future, should growth in those areas continue. The long-term effects the current economic recession and rising price of gasoline will have on the town's future development cannot be predicted at this time; but it can be assumed that the general economic slowdown will at least temporarily affect both the second home building and tourist business in the town and the location of industry nearby.

The primary limiting factors for continued growth in Long Beach relate to the availability of public water supplies and sewage disposal facilities. The town, with county assistance, is seeking to expand

its water system to serve the whole jurisdiction. A preliminary engineering study is now being made of the feasibility of extending the county water main across the Oak Island Bridge and subsequent installation of water lines throughout the Long Beach jurisdiction. Preliminary plans call for public water line extension first to a) all ocean front lots (which already have public water lines), b) the mixed residential (R-2) section in the northeast part of town, and c) trunk lines along East Oak Island Drive to Middleton Avenue, with trunk lines down 56th Street East, 40th Street East and Middleton Avenue. The remaining sections of town will be supplied with public water as soon as financially possible.

Long Beach also plans to study the feasibility of establishing a public sewer system. Outside financial assistance will almost certainly be required for construction of a sewage treatment facility as well as sewer line installation. Partial federal and state funding could conceivably be granted through the Federal 201 Wastewater Facility Planning and State Clean Water Bond Act programs. However, the availability of adequate funds in either of these programs now or in the future is uncertain at best.

The soils in Long Beach have moderate to severe limitations for septic tanks. There is no indication that the septic tanks in use in the town are causing pollution problems at this time, either of estuarine surface waters or ground water supplies. Population densities throughout the town remain relatively low all year and peak seasonal use of the area is short. There are other coastal areas, however, with similar soil characteristics supporting higher density development, where shellfish waters have been closed to harvesting and ground water

supplies found to be contaminated from subsurface wastewater disposal systems' malfunctioning in supersaturated soils. Most of the town of Long Beach continues to rely on shallow wells for domestic supplies. The potential for pollution of these water supplies and of the SA estuarine waters surrounding the town cannot be overemphasized.

The amount of residential and commercial land use which could be safely accommodated by septic tanks in Long Beach cannot realistically be determined at this time. It can only be assumed that some of the anticipated growth could be accommodated without degradation of the town's resources, but that at some undetermined point, the capacity of land and water resources would be exceeded. For that reason, failure to find means to install both public water lines and an adequate sewerage system could appreciably delay some of the growth which is expected.

Accommodating Future Growth

Residential

From a comparison of the count of platted lots in Long Beach with the number of residential structures now occupying lots, it can be estimated that the town's developed residential acreage is only about 20 percent occupied at this time. Such an estimation assumes that only one structure will be built on each lot. There should be, in any case, more than enough residential land developed into lots available to accommodate the growth expected to occur by 1995.

There are platted lots that have not yet been built upon in all of the town's residential zoning districts. In all districts except one, only single family dwellings are permitted; in Residential District 1 (beach front) duplexes can be permitted if connected to the

municipal water supply. Construction, including the location of mobile homes where permitted, is limited to single family detached dwellings of no more than 35 ft in height for several reasons, including 1) the necessity for adequate space to accommodate individual septic tank filter fields and private wells, 2) the limitations of firefighting equipment, especially water pressure, to deal with fires in buildings exceeding 35 ft in height, 3) the size and shape of most residential lots, designed initially to accommodate single family units or duplexes, and 4) the general desire on the part of townspeople to maintain low density development.

Until public water and sewer facilities become operational, the kinds of housing units that can be built will remain limited, and the arrangement of houses on lots will retain a basic rectangular grid pattern with uniform setbacks, yard sizes and the like. It is conceivable, however, that after installation of the public facilities, a larger variety of housing types could be allowed, and adjoining lots could be grouped together to allow greater flexibility in the arrangement of structures.

Commercial

The total amount of land that will be needed in the future for commercial uses to support residential growth will depend on the kinds of commerce sought and the extent to which the town will function as a commercial center. It can be assumed, however, that even if commercial activity were limited to only residential and tourist support facilities, more land would be needed than is currently zoned for

commercial uses. Of the 3,211 acres of land suitable for development, only 85 acres (3 percent) are zoned for commercial use, while 3,126 (97 percent) are zoned Residential. There are no minimum sizes for commercial lots, so commercial land could conceivably be developed at very high densities in order to allow its maximum use. There is, however, a 35 ft limit on the height of commercial structures.

Most of the land in the town zoned for commercial uses is located along the main thoroughfare, Oak Island Drive. Problems are already being encountered with heavy traffic and the lack of offstreet parking, even though much of the commercial land is not yet built upon. Many buildings in the main business district are located too close to Oak Island Drive to facilitate four-laning the street there as is planned to be done elsewhere. For that reason, the town plans to revamp its zoning districts in the near future towards a better proportion of commercial to residential acreage and, in particular, towards development of at least one commercial mall complete with adequate parking and landscaping.

Transportational

The road network for Long Beach is almost entirely developed at this time; but while there are roads connecting all parts of the town, there is no hierarchy designed into the system to accommodate heavier traffic along major roads. The town plans, therefore, to study the feasibility of four-laning Oak Island Drive and to develop any other thoroughfares deemed necessary in light of the zoning redistricting.

Public and Institutional

Concurrent with the reapportioning of commercial/residential

lands, the town will assess the need for land to support municipal functions. In particular, a site for a sewage treatment facility will likely be necessary in the future as will land that can be used for other municipal and public service functions. If the amount of land needed to meet foreseeable future needs can be assessed soon, and that land obtained, various public functions could be concentrated into a municipal complex allowing for more efficient governmental operation in the future, and ultimately, lower public land costs.

Public Recreational Land

Long Beach is developing a balanced recreation program combining extensive resource based activities such as boating, swimming and fishing, with more intensive organized activities such as baseball, basketball and tennis. There are at this time no publicly-owned and operated beach areas or marinas in the town; but the town is increasing the number of structural public accessways to beaches and waterways and plans to make more safety and sanitation facilities available. Since the town is virtually completely subdivided, little provision can be made in the Subdivision Regulations to require open spaces to be left for public recreation. The estuarine marsh system of the town, however, is all zoned Open Spaces; owners of land within the Open Spaces District are encouraged to make arrangements with the town to allow parts of this land to be developed for public recreation.

Facilities in the municipal park are continually being improved and new recreation activities are being developed. The high cost of land in the town, however, and the high priority placed on establishing other municipal services immediately, reduces the feasibility

of the town's acquiring additional parkland in the near future. Efforts will be made, however, to acquire additional land for recreation as soon as such acquisition becomes feasible.

LAND CLASSIFICATION SYSTEM

The North Carolina Land Policy Council has established a Land Classification System for localities to use to identify the most appropriate general uses of various kinds of land. The town's Land Classification Map (LCM) produced from the Land Classification System will serve as a local government tool for informing state and federal authorities, as well as local residents and property owners, on where and at what density growth is desired, and of areas for which new or amended land use regulations will be established.

The Land Classification System categories would perhaps be more applicable to more urbanized places with more diverse land uses than Long Beach. Moreover, the system was established to deal with projected increases in permanent population, rather than seasonal population which in Long Beach is much higher. The population density needed to warrant the "Developed" or "Transitional" category, for instance, though applicable for the summer season, exceeds the highest densities found in the town in winter. Strict application of the defined criteria for each category, therefore, is impossible; but the system, when adapted to the town's needs, can be used for its intended purpose.

The Land Classification System includes the following five categories of land:

1. Developed - Lands where existing population density is moderate to high and where there is a variety of land uses which have the necessary public services.

2. Transitional - Lands where local government plans to accommodate moderate to high density development during the following ten-year period and where necessary public services will be provided to accommodate that growth.

3. Community - Lands where low density development is grouped in existing settlements or will occur in such settlements during the following ten-year period and will not require extensive public services now or in the future.

4. Rural - Lands whose highest use is for agriculture, forestry, mining, water supply, etc., based on their natural resource potential. Also, lands for future needs not currently regognized.

5. Conservation - Fragile, hazardous, and other lands necessary to maintain a healthy natural environment and necessary to provide for the public health, safety, and welfare.

Three of the above categories are applicable to Long Beach -- Transitional, Community, and Conservation.

The Conservation class includes the town's estuarine areas (except for the brackish pond area) and the ocean beaches. Designation as Conservation indicates the municipal policy determination that services, including water and sewer lines and paved streets, will not be extended into these areas.

The Transition class covers those parts of the town where densities by 1985 will necessitate public service extension and appropriate development will be supported as necessary by public funds. In particular, the Transitional class includes those parts of the town to which public water lines will be extended by 1985. (Planning for a sewer system has not yet proceeded to the point that areas expected to be connected to the sewer system by a given date can be identified).

The Community class covers the remaining parts of the town where the density of development should remain sufficiently low that sewer and water lines will not be needed by 1985.

SECTION V

PLAN ADOPTION AND IMPLEMENTATION

PLAN ADOPTION

As authorized by the Town Council, the Long Beach Land Use Plan was prepared by the Town Planning Board with technical assistance provided by Coastal Zone Resources Corporation. Current economic, social and environmental conditions in the town were assessed; major land use issues were addressed; and alternative policy measures which could be used to solve existing and deter potential problems were studied. During this process, public opinion was solicited, obtained and evaluated, and used as a primary determinant of future objectives, standards and policies.

In order to ensure that the Long Beach plan would be compatible with provisions and policies of the Brunswick County Plan, activities of the respective planning groups were closely coordinated. A regular part of the agenda for town planning meetings included reports of planning progress in adjacent municipalities and the County. Representatives of the Town and county Planning Boards met to discuss concurrent water system planning activities as well as those directly related to CAMA planning.

The preliminary draft of the Land Use Plan, including recommended policies, was submitted in February 1976 to Town Council for review. On March 3 and 11, 1976, the Planning Board and elected officials discussed at length the issues involved and their implications for future growth and land use in the town. From these review sessions and subsequent studies of alternatives, the proposed plan and policies for future development of the town were developed.

In order that the essential elements of the Plan, including its land use poliicies, objectives and standards, be available to all interested persons, a Synopsis of the Plan is being prepared. The Synopsis will include the Land Classification Map and examples of the Existing Land Use and Areas of Environmental Concern delineations, with an explanation of how additional information can be obtained upon request.

The sequence of events yet to come, before final adoption and implementation of the Plan, includes:

1. Joint City/County Public Hearing -- On May 6, 1976, a joint public hearing, in which the Brunswick County and municipal plans will be presented will be held in Southport. The purpose of the joint hearing is to allow the planning bodies of each jurisdiction to acquaint each other with plans and policies and to assure compatibility among the various plans.
2. Municipal Public Hearing -- On May 7, 1976, the Town of Long Beach will hold a public hearing in order to receive comments from residents and property owners on the proposed Land Use Plan and Synopsis. Comments and suggestions made in the public hearings will be carefully reviewed; necessary changes in the Plan and Synopsis will be made before their formal adoption by the Town.
3. Transmission to the Coastal Resources Commission -- By May 21, 1976, a certified copy of the Adopted Plan will be sent to the Coastal Resources Commission for its review and approval.

At least 30 days before the Town's public hearing, copies of the completed plan with maps will be placed in the Town Hall for public review and inspection. Notice of both public hearings and of the availability of the Plan for review will be made in newspapers distributed locally.

Following adoption of the Plan and its approval by the Coastal Resources Commission, copies of the full Plan will be available for study in the Town Hall and County Courthouse. Copies of the Plan and/or any of its maps can be obtained from the Town Hall, at cost, upon written request. The Synopsis will be mailed to all recorded property owners of the Town; additional copies of the Synopsis will be made available free of charge upon written request.

PLAN IMPLEMENTATION

The second phase of the CAMA planning process involves implementation of the Land Use Plan. The town's adoption of its Plan constitutes a formal declaration of land use policies, but many of the standards proposed for meeting objectives require either some revision of existing town ordinances or enactment of new ordinances in order to become effective. Related planning activities, as for water and sewer systems and parks and recreation, are also involved in plan implementation.

The major elements of the implementation phase of the Land Use Planning Process in Long Beach are summarized as follows:

Revision of Town Ordinances

In order to carry out policy objectives, some revision of the town's Zoning Ordinance, Subdivision Regulations, Building Code, Sand Dune Protection Ordinance and Environmental Impact Statement Ordinance may be necessary. Specifically, provisions will be made for:

1. assuring that all construction will meet applicable standards of the Federal Insurance Administration, adhering to municipal policies of protection of Areas of Environmental Concern,
2. requiring the screening of unsightly parts of commercial areas from the view of the road,
3. establishing a method of warning prospective property buyers of the town's policies of service provision to hazard areas.

Coordination of Permit-Letting Authorities

The 1974 Coastal Area Management Act provides for local

permit-letting agencies to be established for minor development[a] permits required in Areas of Environmental Concern (AEC's). In order to qualify for AEC permit-letting authority, a local jurisdiction must first declare its intent, then prepare a Local Management Plan acceptable to the Coastal Resources Commission (CRC). The CRC is currently establishing criteria for local implementation and enforcement programs including elements that will be required for approval of a Local Management Plan.

The CRC emphasizes the value of coordinating the activities of various local regulatory authorities, such as building and septic tank inspections, subdivision plat approvals, and sedimentation and erosion control program approvals, with the AEC minor development permit-letting authority. Such coordination could simplify the permit-letting process for both the jurisdiction and applicants involved and could reduce local governments costs of reviewing various kinds of applications. The CRC criteria being developed will also allow for City-County coordinated permit-letting authorities.

Therefore, part of the implementation phase of planning in Long Beach will be development of the aforementioned Local Management Plan.

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[a]The term: "Minor Development" means any development other than a major development. The statutory definition of Major Development is "any development which requires permission, licensing, approval, certification of authorization in any form from the Environmental Management Commission, the Health Services Commission, the State Departments of Natural and Economic Resources or Conservation and Development, the State Department of Administration, the North Carolina Mining Commission, the North Carolina Pesticides Board, or the North Carolina Sedimentation Control Commission; or which occupies a land or water area in excess of 20 acres; or which contemplates drilling for or excavating natural resources on land or under water; or which occupies on a single parcel a structure or structures in excess of a ground area of 60,000 square feet."

Related Planning Activities

The Town has contacted the U. S. Bureau of the Census and has begun steps necessary to conduct a town census. The town will request cooperation from commercial establishments in assessing average and maximum seasonal populations. Upon completion of these surveys, the Town will formulate population projections to utilize in all planning activities.

As called for in the Objectives and Standards of the Plan, the Town Planning Board will study the feasibility of establishing bicycle paths and a beach clean-up program.

The town will initiate a Commercial Needs Study (Federal 701 planning funds have been requested for this purpose) in order to carry out necessary zoning redistricting. The study will assess both the future commercial land needs in the town and the kinds of business enterprises whose location in the town should be encouraged. Upon completion of the zoning redistricting, the town will seek assistance from the State Department of Transportation in establishing a thoroughfare plan.

Section 208 of the Federal Water Pollution Control Act Amendments of 1972 (PL92-500), as well as other sections of this law, is designed to achieve water quality which "provides for the protection and propagation of fish, shellfish, and wildlife and provides for recreation in and on the water" by July 1, 1983. Section 208, more specifically, is designed to plan ways to reduce all types of pollution in specially designated areas to the 1983 level and to set up a management agency to guarantee achievement and maintenance of the 1983 water quality level. Areas in North Carolina having complex water quality control problems have been designated by the Governor as priority 208 Planning Areas.

The Governor's designations include Long Beach as well as the rest of Brunswick County. The town will coordinate the 208 planning efforts with the County as soon as adequate funds become available; in the meantime, the town will petition the North Carolina Divisions of Environmental Management and Health Services to assist in a study of the quality of existing domestic water supplies, to be coordinated with the Division of Marine Fisheries monitoring of estuarine water quality.

Periodic Review and Revision of the Plan

In order to make land use planning an on-going, effective process, the Town Planning Board, in its regular monthly meetings and at special meetings as needed, will consider any upgrading or revision of the Plan deemed necessary. The Planning Board will make an annual report of the recommendations to Town Council; the full Land Use Plan will be reviewed by each incoming Board of Commissioners (biennially); results of recreation, transportation and commercial needs studies will be incorporated into the Land Classification Map in order to produce a more complete portrayal of future land use.

SECTION VI

REFERENCES CITED

References Cited

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APPENDIX A

APPENDIX A: PUBLIC PARTICIPATION PROGRAM

The Long Beach Planning Board, with the concurrence and support of Mayor Herman E. Joyce and the Board of Town Commissioners, actively sought and utilized public views in preparing the land use plan. The planning process was open to all persons with an interest in Long Beach, including resident and non-resident taxpayers and vacationers.

The Public Participation Program consisted of the following activities:

1) Appointing a Planning Board representing the interests of the community. The Planning Board members are

   Rosetta Short, Chairman

   Ward Foster, Vice-Chairman

   Walter Reinheimer, Secretary

   Morris Ferrell

   Otto Maehl

   Don McNeill

   Richard Sage

   Jack Ward

2) Conducting public information meetings.

In order to obtain the widest possible input from all of the Town's population, the Long Beach Planning Board arranged neighborhood public information meetings beginning with the Spring of 1975 and extending throughout the summer. The meetings were scheduled at night in order to be convenient to both permanent residents and vacationers. Notices of the meetings were placed in the Town Hall and local stores.

Despite conscientious effort by the Planning Board, attendance at the meetings was very poor and the neighborhood meetings were abandoned.

The Planning Board continued to hold its regularly scheduled monthly meetings, open to the public, throughout the summer. The Board continually addressed the major issues confronting the Town and studied alternative means of solving problems.

3) Formulation and distribution of Questionnaires and Tabulation of Responses:

Early in the planning process, the Planning Board formulated questionnaires designed to determine the nature of the major land use issues in the Town. The Citizens Questionnaire (See Exhibit A-1) asked for an assessment of the major problems and advantages of the Town, general growth goals for the future, and desired means for accomplishing chosen goals. The Questionnaire was distributed in neighborhood meetings and in a local newspaper (editions of the Wilmington Star News, delivered to Long Beach. The volume of response to the Questionnaire was poor, but the candid answers of those responding were enlightening. Tabulations of the Citizens Questionnaire are attached as Exhibit A-2. While the number of responses was too small to be considered a concensus of Town opinion, the information gained from them allowed the Planning Board to direct itself to more specific issues in its next attempt.

EXHIBIT A-1

LONG BEACH CITIZENS QUESTIONNAIRE

EXHIBIT A-1

LONG BEACH CITIZENS QUESTIONNAIRE

The Long Beach Planning Board and the City Commissioners are preparing the Coastal Area Management Plan for Long Beach. Your Planning Board and Commissioners are vitally interested in the comments and suggestions you and other citizens have and are inviting you to become involved in preparing the plan. Your help will aid us in making a plan for Long Beach's future which is based on your own goals and interests.

This questionnaire is the first step in the continuing process of getting the citizens involved. You will be kept informed of the progress we are making and will be invited to other meetings as they are scheduled.

Please take the time to fill out this brief questionnaire and hand it in at the end of the neighborhood meeting or mail to:

Mr. Otto Maehl
P.O. Box 582
Long Beach, N. C.
278-6433

---

1. What do you think are the four major problems in Long Beach today? (Indicate priority by numbering 1, 2, 3, and 4.)

____ Lack of housing, especially during the summer

____ Poorly constructed housing

____ Lack of year round employment opportunities

____ Poor roads and traffic control facilities

____ Lack of good shopping areas

____ Inadequate educational opportunities

____ Poor access to beaches

____ Lack of public beach areas

____ Lack of community recreational facilities (parks, golf courses, tennis courts, boat access points)

____ Lack of cultural opportunities (drama, cultural arts, etc.)

____ Problems with septic tanks

____ Problems with solid waste

____ Beach erosion

____ Unsightly development

____ Flooding or drainage

____ Inadequate parking

____ Other (explain)_____

_____

_____

2. What do you think are the four major advantages to living in Long Beach today? (Indicate priority by numbering 1, 2, 3, and 4.)

____ Good supply of quality housing

____ Low taxes

____ Good opportunities for business

____ Lack of crowded living conditions

____ Closeness to beaches

____ Attractiveness of outdoor activities

____ Good schools

____ Low cost of living

____ Clean air and water

____ Tourist support economy

3. In the next 5 to 10 years, would you prefer to see the permanent Long Beach population? (Mark one)

____ Increase rapidly

____ Increase slowly

_____ Remain the same

_____ Slightly decline

_____ Decline significantly

4. In the next 5 to 10 years, would you like to see the tourist trade and seasonal residents (as measured by numbers of motels, restaurants, camping areas, recreation areas, and summer homes) to? (Mark one)

_____ Increase rapidly

_____ Increase slowly

_____ Remain the same

_____ Slightly decline

_____ Decline significantly

5. If you desire population to increase, how should the increase be accommodated? (Mark one or more)

_____ Permit use of smaller lot sizes

_____ Permit multi-story buildings

_____ Increase multiple occupancy structures

_____ Limit new development to the existing permitted densities on available undeveloped land.

_____ Other; Explain_____

_____

6. If the population of Long Beach increases, there will be an increase in pressure for commercial areas. Do you think that this growth should be regulated? ____yes, ____ no. If yes, how_____

_____

7. What would you like Long Beach to be like next year, five years from now, or 10 years from now?

_____

_____

8. Please make any additional comments or suggestions which would help us to plan for the future of Long Beach.

_____

_____

_____

Thank you

Otto Maehl, Chairman
Long Beach Planning Board

EXHIBT A-2

TABULATION - LONG BEACH CITIZENS QUESTIONNAIRE

Exhibit A-2. Tabulation - Long Beach Citizens Questionnaire

Question 1. Four Major Problems

Choices	First No.[a]	First Wt.[b]	Second No.	Second Wt.	Third No.	Third Wt.	Fourth No.	Fourth Wt.	Total Wt.	Four Problems
Lack housing	1	4							4	
Poor construction	2	8	2	6	2	4	3	3	21	
Lack employment	1	4	1	3	2	4			11	
Poor roads & traffic			2	6	1	2	4	4	12	
Lack shopping	3	12	3	9	2	4	2	2	27	
Inadequate education	4	16	3	9			4	4	29	4
Poor access to beaches			4	12	1	2	1	1	15	
Lack public beach	1	4			4	8	2	2	14	
Lack comm. recreation	1	4	1	3	2	4	1	1	12	
Lack cultural	2	8	2	6	3	6			20	
Septic tanks	3	12	5	15	2	4	1	1	32	3
Solid waste	1	4	1	3	1	2	1	1	10	
Beach erosion	5	20	3	9	3	6	1	1	36	2
Unsightly development	5	20	3	9	5	10	3	3	42	1
Flooding or drainage					1	2	1	1	3	
Parking							4	4	4	
Other: Town Board	5	20							20	
Zoning enforcement	1	4	1	3					7	
Taxes			1	3					3	

[a] No. indicates number of times listed.

[b] Wt. indicates weight, i.e., number of times listed multiplied by 4 for first, 3 for second, 2 for third, or 1 for fourth choices.

Exhibit A-2. (Continued)

Question 2. Four Major Advantages

Choices	First No.	First Wt.	Second No.	Second Wt.	Third No.	Third Wt.	Fourth No.	Fourth Wt.	Total Wt.	Four Problems
Supply housing					1	2	1	1	3	
Low taxes	2	8			1	2	1	1	11	
Business opportunities			1	3					3	
Lack crowded living	11	44	8	24	3	6	1	1	75	1
Closeness beaches	10	40	8	24	1	2	1	1	67	2
Outdoor activities			2	6	7	14	8	8	28	4
Good schools									0	
Low cost living					2	4	3	3	7	
Clean air & water	5	20	6	18	5	10	5	5	53	3
Tourist economy										

[a]No. indicates number of times listed.

[b]Wt. indicates weight, i.e. the number of times listed multiplied by 4 for first, 3 for second, 2 for third, or 1 for fourth choices.

Exhibit A-2. (Continued)

Question 3. Permanent Population

Increase rapidly	9
Increase slowly	20
Remain the same	3
Slightly decline	2
Decline significantly	0

Question 4. Tourist Trade

Increase rapidly	6
Increase slowly	19
Remain the same	3
Slightly decline	0
Decline significantly	4

Question 5. Increase Accommodated

Smaller lot sizes	1
Multi-story buildings	3
Multiple occupancy structures	1
Existing densities	15

Question 6. Growth Regulation

yes	29	no	4
how: zoning	11	planning	7
landscaping	1	careful selection new businesses	3

Question 7. Long Beach in Future

(sample of responses)

More business opportunities furnishing good employment.

Growth not be at expense of attractions - oaks of Oak Island, closeness to uncluttered beaches, low housing density.

Attractive, clean resort for families; profitable place for all support services required in a resort and living area.

A nice, decent, moral, quiet place to relax and enjoy yourself.

As close as possible to today with low density population increase.

Exhibit A-2. (Continued)

Question 8. Comments and Suggestions

(sample of responses)

Special fishing rates for senior citizens.

More attention given to year-round residents.

Avoid trying to be either a honky-tonk, a "retirement village", or a Bald Head-Hilton" type of place.

Stop arguing among yourselves.

Consolidate with Yaupon.

Keep our waters and land clean of pollution and don't let the marshes be destroyed.

No multi-story building.

Beautification at campgrounds.

Encourage M.D.'s and veterinarians to come to Long Beach.

EXHIBIT A-3

(SECOND QUESTIONNAIRE)

In August of 1975, the Planning Board formulated a new questionnaire asking opinions on those issues which had surfaced as the major issues facing the Town (See Exhibit A-3). In order to assure its wide distribution, the Taxpayers Questionnaire was mailed to all property owners on record (approximately 5800). Approximately 1000 questionnaires (17 percent) were returned. The responses were tabulated by the Planning Board; the tabulations are shown as Exhibit A-4.

Exhibit A-3.

TOWN OF LONG BEACH
P.O. BOX 217
LONG BE ACH, N.C. 28461

Dear Taxpayer:

The Long Beach Planning Board is currently devising a land use plan as required by Coastal Area Management Act of 1974. We are taking this means o ask all individual taxpayers of Long Beach to give us their ideas on how they ..ould like the Town to be developed. We feel that since you own property at Long Beach, you should have a say in how the Town develops over the next 5 - 20 years. Your ideas will be carefully considered regardless of the ize of your property.

1. Water will soon be available to the Town from the County. Would you like to ee a plan submitted to allow the Town to implement it by phases?
YES_____ NO_____

2. How would you like to pay for it?
a. Assessment_____ b. Revenue Bonds (pd for from water income)_____

3. Would you like strict enforcement of the present Ordinance that all structures be in good repair or force condemnation proceedings?
ES_____ NO_____

4. Should an area be re-zoned to allow construction of an amusement park?
YES_____ NO_____

5. Would you like to see the Town of Long Beach acquire a public beach area nd provide sanitary facilities and life guards?
YES_____ NO_____

6. Should the growth of Long Beach be aimed at promoting permanent residents r primarily vacation homes?
ermanent_____ Vacation_____

7. Should the commercial areas be located in mall centers with parking and andscaping , instead of strung out along the highway?
ES_____ NO_____

8. In the projected 15 year plan, would you like to see Oak Island Dr oulevarded with a landscaped median and bicycle paths?
ES_____ NO_____

9. The dunes are one of our areas of greatest enviromental concern. Would you like to see stricter enforcement of existing dune ordinance?

ES_____ NO_____

EXHIBIT A-4.

TABULATION LONG BEACH PROPERTY OWNERS QUESTIONNAIRE

Exhibit A-4. Tabulation Long Beach Property Owners Questionnaire.

Question	Response	% Total	Response	% Total	Total Responses
1. Water	Yes		No		
	808	95	44	5	852
2. Payment-water	Assessment		Revenue Bonds		
	51	6	864	94	915
3. Zoning enforcement	Yes		No		
	911	92	82	8	993
4. Amusement park	Yes		No		
	473	48	522	52	995
5. Public beach	Yes		No		
	654	65	346	35	1000
6. Vacation vs. permanent	473	47	347	34	1015
	195	19			
7. Mall centers	Yes		No		
	873	87	129	13	1002
8. Boulevard	Yes		No		
	602	70	264	30	866
9. Dune ordinance	Yes		No		
	903	95	52	5	955

Addendum

Corrections and Additions to Town of Long Beach Land Use Plan

Page I-3, paragraph 2 --

Add to end of paragraph:

"On March 29, 1976, the Bureau of the Census conducted a survey of the Town's permanent resident population. The preliminary results of that survey show the 1976 population to be 1654."

Page I-4 --

The first paragraph under the heading Municipal Finance is re-written as follows:

"The Long Beach Town Budget for fiscal year (FY) 1975-1976 is based on a total estimated (at 100 percent) property valuation of $80,000,000 and a tax rate of $.61 per $100 valuation. The property valuation in FY 1971-1972 was $8,572,000 (at 50 percent) and the tax rate was $1.20. Ad valorem taxes (including back taxes and penalties) produced a revenue of $105,700 in 1971 and $282,000 in 1975."

Page I-15 --

Under the subheading Subdivision Regulations for Long Beach, North Carolina, the "Application" is redefined as follows:

"All divisions of parcels of land, with certain exceptions, into 2 or more lots where a street right-of-way dedication is involved within the jurisdicton of Long Beach."

Page I-18

The description of water and sewer plan number 2 by Wiggins-Rimer and Associates is deleted (since it is an inventory rather than a plan). In its place, the following plans are inserted:

2. Engineering Report -- Water Distribution System, Town of Long Beach, North Carolina, Pierson and Whitman, Inc., Consulting Engineers, Raleigh, N. C., 1974.

Recommendation

The Town's public water system should be expanded to serve the whole jurisdiction.

3. Engineering Report -- Water Distribution System, Town of Long Beach, North Carolina, Pierson and Whitman, Inc., Consulting Engineers, Raleigh, N. C. 1976.

Recommendations

a. The Town's public water system should be expanded in phases. Phase I should include the beach area and the eastern part of the town west to Middleton Avenue; Phase II should include the rest of the town.

b. The Town should attempt to obtain Farmers' Home Administration financing.

On April 21, 1976, the Town of Long Beach submitted its application to the Local Government Commission. On May 5, 1976, the Town Council passed a resolution to hold a public referendum on floating a general obligation bond for the water system. The referendum is scheduled for June 29, 1976.

Page I-38 --

In the first paragraph, the sentence beginning "Tentative plans..." and ending with "...natural marsh habitat." is deleted.

Page V-4 --

Under Revision of Town Ordinances delete subparagraph 3.

Index to Table of Contents (based on Standard Format)
Long Beach Land Use Plan

	Subject	Section	Pages
I.	Introduction	1	1-6
II.	Description of Present Conditions	I	1-37
	A. Population and Economy	I	1-7
	B. Existing Land Use	I	8-12
	1. Map	Attached	
	2. Analysis	I	1, 12
	C. Current Plans, Policies and Regulations	I	13-19
	1. Plans and Policies		17-19
	2. Local Regulations	I	13-17
	3. Federal and State Regulations	N/A	
III.	Public Participation Activities	Appendix A	
	A. Identification and Analysis of major land use issues	II	1-16
	1. The impact of population and economic trends	II	1, 2, 11-16
	2. The provision of adequate housing and other services	II	6-8
	3. The conservation of productive natural resources	II	2, 3
	4. The protection of important natural environments	II	4, 5
	5. The protection of cultural and historic resources	N/A	
	B. Alternatives considered in the development of the objectives, policies and standards	II	11-13
	C. Land use objectives, policies and standards for dealing with each identified major issue	II	17-20

Subject	Section	Pages
D. A brief description of the process used to determine objectives, policies and standards, emphasizing public participation	II	2
E. A detailed statement outlining the methods employed in securing public participation, and the degree of participation achieved and the results obtained.	Appendix A	
IV. Constraints	I	20
A. Land Potential	I	20-30
1. Physical Limitations	I	20-22
2. Fragile Areas	I	23-30
3. Areas with Resource Potential	N/A	
B. Capacity of Community Facilities	I	30-38
1. Identification of existing water and sewer service areas	I	35-37
2. Design capacity of existing water treatment plant, sewer treatment plant, schools and primary roads	I	30-38
3. The percent utilization of water and sewer plants, schools and primary roads.	I	30-38
V. Estimated Demand		
A. Population and Economy		
1. Population	II	14-16
2. Economy	IV	1-2
B. Future Land Needs	IV	3-7
C. Community Facilities Demand		
1. Ten-year population projection used to determine facilities demand	N/A	
2. Consideration of the type and cost of services needed to accommodate projected populations	II	6-8